

THE FARM, GARDEN, &c

PART III. THE STABLE.



JOHN A. SEAVERNS

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AND AVIARY.

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CARRIAGES.

MANAGEMENT OF CARRIAGES.

MR. R. STACEY, of Nottingham, says : " The coach-house should be airy and dry, with a moderate amount of light, otherwise the colours will be destroyed. There should be no communication between the stable and the coach-house ; and the manure heap or pit should always be kept as far away as possible, as ammonia causes the varnish to crack, and the colours both of painting and lining to fade. Moreover, the doors should be provided with fastenings to prevent their being blown to with the wind.

" Whenever a carriage stands for days together it should have on it a large linen cover, of such a substance as will keep off the dust without excluding the light ; for dust, when allowed to settle on a carriage, eats into the varnish. Care should always be taken to keep the linen cover dry. When a carriage is new or has been newly-painted, it is better to let it stand a few weeks before being used. It will, however, even then stain or spot ; and care should therefore be taken to remove the mud before it dries on, or as soon afterwards as possible. A carriage should never, under any circumstances be put away dirty. When washing a carriage keep out of the sun. Have the lever end of the 'setts' covered with leather. Use plenty of water, which apply (where practicable) with a hose or syringe, taking great care that the water is not driven into the body of the carriage to the injury of the lining. When forced water is not attainable, use for the body a large soft sponge. This, when saturated, squeeze over the panels, and by the flow down of the

water the dirt will soften and run harmlessly off ; then finish with a soft chamois-leather and an old silk handkerchief. The same remarks apply to the underworks and wheels, except that when the mud is well soaked, a soft mop, free from any hard substance in the head, may be used. Never use a spoke-brush, which, in conjunction with the grit from the road, acts like sand-paper on the varnish, scratching it, and of course effectually removing all gloss. If persisted in, it will rub off the varnish and paint down to the wood. Never allow water to dry itself on a carriage, as it will invariably leave stains.

“To remove spots or stains, a few drops of furniture polish, reviver, or even linseed oil, rubbed on with a dab made of woollen rags (using as little of the fluid as possible) will generally suffice. If the panels are very badly stained, nothing but a regular flatting down and hand-polishing, or even revarnishing, will be effectual. Patent leather may be easily revived in the same way.

“Enamelled leather heads and aprons should be washed with soap and water, and then very lightly rubbed with linseed oil. In cleaning brass or silver, no acid, mercury, or grit should be used ; the polish should be obtained solely by friction.

“To prevent or destroy moths in woollen linings, use turpentine and camphor. In a close carriage, the evaporation from this mixture, when placed in a saucer, and the glasses up, is a certain cure.

“Be careful to grease the bearings of the fore-carriage so as to allow it to turn freely. If it turns with difficulty, the shafts or pole will probably strain or break.

“Examine a carriage occasionally, and whenever a bolt or clip appears to be getting loose, tighten it up with a wrench. Always have little repairs done at once. Should the tires of the wheels get at all slack, so that the joints of the felloes are seen, have them immediately contracted, or the wheels will be permanently injured. Keep a small bottle of black japan and a brush always handy to paint the treads and steps when worn by the feet ; nothing makes a carriage look more tidy than this. Lay it on as thinly as possible. Never draw out or back a carriage into a coach-house with the horses attached : more accidents occur from this than any other cause. Headed carriages should never be allowed to stand with the head down ; and aprons of every kind should be frequently unfolded, or they will soon spoil. As a general rule, a carriage retains its freshness better with gentle work than if standing for long periods in a coach-house. If not used frequently, draw it out from the coach-house occasionally to give it an airing.”

MOTHS IN CARRIAGES.

It is non-use which induces moths. The cushions, &c., should be often exposed to air, and brushed. Sprinkling with camphor-water is recommended, and putting bits of camphor in the cushions and linings. But especially take care that the coach-house be free from all lumber, and let the house be frequently whitewashed, with sulphur mixed in the wash.

DISEASES.

ALBUMINURIA.

Administer night and morning in a bran mash a drachm of finely-powdered sulphate of iron.

ALOES.

The proper dose for a horse is 5drs.

ALTERATIVE POWDER.

No. 1.—Equal parts of nitre, sulphur, and cream of tartar, and one half part of black antimony, and the same of powdered ginger, well mixed together, and kept rammed down tight in a jar, and a table-spoonful given once a week in a feed of mash. If the antimony is added it must be used with caution as it opens the pores, and renders the animal susceptible of cold, and should therefore be only added in warm weather, or when specially required to act upon the skin, upon which the effects are soon visible; and indeed it is well not to give the powder at all before or after very hard work.

No. 2.—Take of Barbadoes aloes $1\frac{1}{2}$ oz., sulphur 3oz., ginger $\frac{1}{2}$ oz., linseed meal $\frac{1}{2}$ oz., mix the meal with boiling water, and add the other ingredients. Then make into six or eight balls.

No. 3.—Give $\frac{1}{2}$ oz. liquor arsenicalis daily over a feed of corn.

No. 4.—Give $\frac{1}{2}$ dr. calomel and $\frac{1}{2}$ dr. of tartar emetic.

BAD FEEDER.

Give the horse three hours walking exercise every day, viz., two hours in the morning and one in the evening. If he does not take his feed remove it at once. Horses from grass will often eat hay and corn damped and sprinkled with salt, when they will not eat either in their ordinary state. Take care also that the stable is not too warm, which often is the cause of horses from grass losing their appetites.

White sugar improves the appetite. Horses are very fond of it.

But it is best to give a cordial ball, or from half a drachm to a drachm of the sulphate of quinine daily after exercise, in a pint or more of beer or porter, for a week or ten days.

Again : On coming in from exercise in the morning, and before they are fed, let your groom take a handful of common salt, and with gentleness open the horse's mouth, and let the roof of the mouth be with equal gentleness rubbed with the salt, not so hard as to occasion abrasion of the skin, but still sufficiently so as to give the horse a fair taste.

Some advise to give the horse carrots, or a few raw potatoes or turnips daily, and he will recover his appetite. Carrots are the best.

Again : Procure a small quantity of the herb called rue ; bind this round the bit of the bridle with a piece of good twine, so that the horse may champ on it during the time he is out. Allow him to drink a little water (say twice or three times during the day, as opportunity offers) ; a few "go-downs" will suffice, just sufficient to wash the saliva into the stomach, and also do this after returning home, before the bridle is taken out. It acts as a good tonic, and generally, if not always, has the desired effect.

Or administer tonics, both vegetable and mineral, together with glycerine, one of the constituents of fat, mixed in the water the animal drinks ; they increase the appetite, and give stamina to the animal frame.

Again : Put barley in a glazed pan and just cover it with boiling water. Let it soak twelve hours, when mix some molasses with it, so as to make a stiffish pudding. Only give a feed occasionally.

Some put into water $1\frac{1}{2}$ lb. of broken oil cake, a gallon of water to a pound of cake ; stir frequently, and give the horse the liquor only daily with his chaff and corn.

Others give daily a ball containing 1dr. of sulphate of iron, twenty grains of powdered capsicum, and half an ounce of gentian, with a sufficient quantity of honey to make a mass. Some artificial food added to bruised oats, with a little bran and chaff, may tempt the animal to eat, or you may try the plan of giving soup made by boiling shank bones with enough water to make a strong jelly, which should be mixed with bran to form balls ; these are to be put into the horse's mouth twice or three times a day, until he acquires a taste for the mixture.

BALLS, TO GIVE.

Where great difficulty is experienced in giving a horse a ball, and you do not wish to throw him, get a good large truss of hay, and

bind it very fast at the two ends, where the hayband is, with two halters, so as to prevent its coming to pieces. Then, with a third rope, or halter, hang the truss round the horse's neck, so that the bottom of it is 6in. from the ground. As he cannot rear or strike out with his feet, from the weight of the hay round his neck, and the cord cutting on his withers, you will (after, perhaps, a jump or so) frighten him till he stands still.

BICARBONATE OF POTASH.

The usual dose for a horse is 2drs. once a day.

BINIODIDE OF MERCURY OINTMENT.

The ointment should be composed of biniodide of mercury, 2drs.; lard, 1oz. This is a good remedy for splints, curbs, ringbones, thorough-pins, and, above all, diseased knees. Every person making use of biniodide of mercury should keep it in a glass-stopped bottle, and never mix until immediately before use. On the following day apply soft soap, rubbing it on gently with the hand, or if the horse will not allow rubbing, it may be plastered on like a charge. Leave it there until it falls off itself. Be sure to purchase the biniodide at a first-rate druggist's. The ointment may of course be made of any strength from $\frac{1}{2}$ dr. of biniodide to 1oz. lard, up to the above prescription.

BLEEDING AT THE NOSE.

Unless the bleeding from the nose cause faintness, it is not advisable to arrest it; but if it becomes necessary to do this, dashing cold water on the head is the safest and most effectual treatment. Under no circumstances should the nostrils be plugged: if the horse should elevate his head, there would be a great risk incurred of suffocation by a rush of blood. On this account, it is not safe to tie the head up while the bleeding continues. The best position for the head is that of the natural line of the neck, and the halter should be so adjusted as to leave the animal free to assume this position, and at the same time to prevent him getting the head too low, which would favour the hæmorrhage. Preventive treatment should be principally directed to the maintenance of moderate condition, and the avoidance of plethora. The animal should be prevented feeding off the ground. In the matter of exercise care should be taken to improve the pace by degrees. Food and water should be withheld immediately before a hard gallop. Medicines are of little use in such cases. If, however, the subject is plethoric,

cooling and laxative medicines will be beneficial ; if he is suffering from debility, tonics and astringents will be required. In the first case four to six ounces of sulphate of magnesia dissolved in water may be given every second day for a week or two ; and in the second instance a drachm of sulphate of iron, with half a drachm of dilute sulphuric acid, may be administered daily in a pint of water or good ale.

BOTS.

Keep the animal from food and drink for twelve hours ; on the following morning give a couple of quarts of warm milk, sweetened with treacle, and in about an hour afterwards drench the horse with a strong dose of Glauber's salts (warm) ; he will bring away the bots. If necessary repeat the dose.

Again : Give a ball composed of tartar emetic 2drs., ginger 15grs., Barbadoes aloes 1dr., syrup enough to make a ball ; and next day give a pint of linseed oil as a drench. This double dose may be repeated once a week till the bots are supposed to be destroyed.

BRITTLE HOOF.

Dress the horse's feet both inside and out with the following compound : 1lb. of Barbadoes tar, 1lb. of Burgundy pitch, 1lb. of soft soap, 1lb. of hog's lard, and 1lb. of bees'-wax. Boil in a pipkin, over a slow fire, stirring meanwhile until well mixed, and let it stand until cold before using. During the heat of the summer, exercise the horse every morning on the grass while the dew is upon it.

Remove the shoes, and turn out to grass. Whilst in the stable put into the horn daily a mixture of tar and olive oil in equal parts.

BROKEN KNEES.

Slight injuries, implicating only the skin and hair, may be left almost untouched, save by cold water for the purpose of preventing swelling of the limb. If the skin is cut nearly or quite through, without the internal tissues being injured, a little tincture of myrrh upon cotton wool, or even the dry cotton, will protect the part from the action of the air, and be, in most instances, a sufficient dressing. Should the wound be lacerated and extensive, the interrupted suture may be employed to bring the edges of the cut as nearly in contact as possible before the dressing is applied, and a bandage will then be proper to assist in retaining the parts together. Every wound whether slight or extensive, should be well washed with warm water, and, if necessary, syringed, to remove any particles of dirt.

Severe wounds of the knee are best treated on the same plan as extensive wounds in other parts. Inflammation is certain to occur, and therefore frequent fomentation with warm water and water dressing will be necessary; a dose of physic, with low diet for the first week, will also materially assist the cure. The wound can only be healed in the ordinary way by granulation; and to facilitate this process every care should be taken to avoid unnecessary irritation to the parts, and all means should be used to preserve the animal's health.

Under the most favourable circumstances severe cases of broken knees will require long-continued treatment—not less in duration, certainly, than six weeks or two months; and as for the greater portion of this period the horse will be compelled to stand, some kind of support will be necessary. Slings are, on many accounts, objectionable; but the exercise of a little ingenuity will enable a carpenter to fit up something in a stall or box to prop the animal up without subjecting him to much restraint. It is also important during the treatment to prevent the motion of the joint, and for this purpose a piece of gutta percha, or a portion of an old trace, may be attached in the manner of a splint to the back of the leg, and retained by a bandage above and below, leaving the middle part, where the wound is, free, so that any dressings applied to it shall not interfere with the fastenings of the splint, which should not be disturbed for a considerable time. After the healing is nearly completed, a tight bandage may be used to get rid of any excess of granulation, or caustic may be applied to the edges of the wound for the same purpose, and the enlargement of the joint, which will remain after the cicatrization is perfect, may be reduced by the use of the biniodide of mercury ointment as previously suggested.

The above is, in our opinion, the most sensible way of treating broken knees. We subjoin, however, several receipts *said* to be efficacious by the persons who have used them.

Carefully wash the wounds clean from all dirt and grit, and well bathe them with warm water and plenty of soft soap, working a fine lather round and round, and over and over the wounded parts with the hand, but as gently as possible; taking the greatest care to work the hair downwards and not upwards, and always finishing by drawing the lather to the centre, and leaving a good heap of it over the wound. This should be done several times a day for the first few days, reducing it to three or four times a day, and then twice a day; and in a fortnight or so a scab will have formed over the parts (which must by no means be removed till it comes off of itself),

under which the cuts will be found to have healed, and the hair to be growing. The longer this outside scale can be kept on the better. Great care should be bestowed upon the even and natural growth of the young hair afterwards, and knee-caps be avoided.

Again: sprinkle over the wound, daily, a composition consisting of equal parts of powdered alum, sulphate of iron, and myrrh. The powder must not be washed off until the wounds have perfectly healed, when, to promote the growth of hair, apply a blister consisting either of the blistering-fly or the biniodide of mercury.

Sometimes, in very mild cases, the hair, when growing again, runs lighter in colour towards the roots; in this case bring all the hair off by a mild blister, such as James's, or by iodine ointment. The hair grows again in a few weeks, and will then be all of the same colour. Whilst the hair is growing use plenty of hand-rubbing down the knee, not up.

Some people recommend the tincture of marigold (*Calendula officinalis*) as a good specific. Carefully cleanse the wound and apply lint saturated with the tincture, wrapping over all some oil-skin. The limb must be kept constantly moist.

Mr. J. Brown, M.R.C.V.S., London, writes that he has found the following powder very efficacious in the healing of wounds of the knee of the horse, caused by falling:—R. hydrarg. bichlorid, 1oz.; pulv. zinci sulph., pulv. alumin., bol. armen., āā 1 oz. M. "I employ," he says, "no bandages nor any kind of compress over the wound, as I consider that these rather retard than otherwise the healing process. By the treatment I advocate, an eschar is soon produced on the surface of the wound, and under it the healing process quickly goes on. After cleansing the wounds thoroughly from all extraneous matter, such as dirt or gravel, sprinkle the parts over with the powder, place the horse in a loose box, and put on a mash diet. On the following day give an aperient. By this treatment an eschar is soon produced on the surface of the wound, and the suppurative process goes steadily on. Remove the pus by gently pressing with a sponge without removing the eschar.

Again: In the first instance apply, for two days, bran poultices; after which, for a week, light linen bandages, kept continually moist with cold water; and, when the wounds are perfectly healed, then apply a blister of the biniodide of mercury. If the knees are deeply cut, after the application of poultices, cover the wounds copiously with a compound consisting of equal parts of powdered myrrh, alum, and sulphate of iron.

BROOD MARES AND FOALS.

Never breed from a weed; take care that they have plenty of back ribs, and they cannot be too deep in the girth. The height is of no consequence; a brood mare should never be too fat, though she must always be kept well.

Mares in foal should be fed regularly; the feed of corn or boiled food being rather under than over the ordinary allowance. Bean and pea straw should not be given, unless this fodder is the food which the mare has been accustomed to during the whole winter; and even in such case a small allowance of hay given at mid-day or in the evening, is always advisable. When bean-straw only forms a part of the fodder—namely, in the spring months—the mares in foal should be continued on wheat or oat straw; still better, a portion of the fodder should be rye-grass hay. Hoven and colic are generally induced by feeding wholly on bean or pea straw—frequently injuring the colt, and sometimes causing abortion. These derangements of the organs are also occasionally brought on by feeding with bean-meal, raw potatoes, or Swedish turnip. To keep the digestive organs in a proper state, bran mash is the most suitable. Near the period of parturition these may be allowed twice a-day, although one in the twenty-four hours is usually more advisable. If half a handful of salt is added occasionally, it will give more tone to the system.

Another and equally common cause of accident to mares in foal is improper working. Mares, for at least three months previous to foaling should not be worked. During wet days, or even showers, they should not be exposed. If they get wet, they should be rubbed dry, and a warm mash allowed upon returning to the house.

The mares should be housed at night all the year round, and if their pasture is rich feed them the last thing before turning out in the morning to prevent them being too eager for the grass. The best hay should be procured. The last week in March or during April is the best time for foaling, though some say you cannot breed too early. Keep the mare's system cool, and give a mash occasionally, especially before foaling.

For at least one month prior to foaling, the mare should be placed in a loose box. This may be formed in the end of an open cattle shed, provided it is made comfortable by boards or straw kept in position by strong bars and common fence railing. The mare should be loose, not tied to anything, and all harness, &c., removed during the night to prevent accidents. If the mare is turned out

previous to or after foaling, it should be to a place free of all danger to the foal.

If no suitable paddock is convenient for the mare and foal, an out-house, or, still better, an open shed, should be set apart for them.

After the mare shows indications that parturition is at hand, she should be watched, but not disturbed. The most reliable indication is, that at the point of the teats there will be observed a waxy exudation. Sometimes the milk will drop from the teats; when this appears, foaling will usually take place within forty-eight hours. The mare is seldom long in labour, and the foal is generally dropped when no one is present. The mare should be disturbed as little as possible. Occasionally the foal-bed requires to be broken to allow the foal to breathe.

The parturition of mares is generally very easy, and they seldom require more assistance than any groom of common acquaintance with such cases can afford.

After the foal has been dropped and the mare has licked it all over, a bucket of warm gruel should be given to her, and for the first two or three days warm water, with some mashies with bruised corn in them.

After foaling, the mare will have had her warm drink, she will then have an aperient, four drachms of aloes.

The foal, if strong, will gain the use of its limbs within two to five hours of being dropped. It readily finds its way to the teats; sometimes, however, the bag is so tight that the foal does not readily catch the teats. The dam occasionally, from an over exciteability, prevents the foal from sucking; in such cases the foal should be assisted by drawing a little milk out of the udder, and kept in position to suck; and, if essentially requisite, a halter may be put upon the mare to hold her steady for the first and perhaps for the second time the foal sucks. If there is a scarcity of milk, the mare should receive bran mashies, boiled linseed, hay, &c.—anything, indeed, to increase the flow of milk. If this cannot be effected, the foal may be reared on cow milk.

The mare should be disturbed as little as possible, and persons with whom she is not familiar should not go near her for the first few days.

On the third day the mare and foal should be allowed to go in and out of the paddock attached to her shed, at will, if the weather is tolerably fine; but at this early age the foal should be protected from rain, which the woolly coat retains for a long time, and causes

illness. They will not be injured by exposure to cold drying winds, or in frosty weather by being allowed the use of the paddock in the middle of the day ; and if not let out too early in the morning, or kept out too late in the evening, will advance rapidly in growth and strength.

From the ninth to the twelfth day the mare should be stinted, and, if possible, the same horse as the sire of the foal should be used.

The food of the mare after foaling should be soft, to increase the lactic secretion ; and, in the absence of green food, which is by far the best, such as is usually given to farm horses, with an allowance of carrot, turnip, and hay, with at least two half-feeds of dry corn daily till abundance of green food is obtained. The change from the dry to the soft food should be gradual. It is advisable not to put the mare upon grass previous to foaling.

The milk of the mare has always a decided influence over the foal, and will produce, as she is fed, either a laxative or constipated state of bowels. If fed highly on corn and hay only, constipation will be the result to the foal, and if, on the contrary, with too many vegetables of a laxative kind, looseness will follow. It will, therefore, be necessary to regulate the food of the mare accordingly, without being obliged to administer physic to the foal, which should not be done unless a very feverish state of body requires it ; a clyster in such cases is the safest and most simple remedy. Should relaxation of the bowels approaching to diarrhœa occur, this may be counteracted by feeding the mare upon dry food only for a day or two, with a few split beans in her corn. In case of eruptions breaking out either upon mare or foal it will be necessary to give sulphur for a day or two in a bran mash ; but during this treatment all exposure to cold or rain must be avoided. Nitre is also an excellent alterative for horses, and can be given either in a ball, or mixed with bran, or dissolved in water. Nitre and sulphur mixed, two parts of the former, with one of the latter, form the best alterative for horses, and which can be given in a bran mash. Sulphur alone is apt to open the pores of the skin too much, and in cold weather may be objectionable.

The foal will seldom attempt to eat before he is three months old, although some will begin rather sooner than others ; but when once you perceive him able and willing to do so, let him begin his lessons. As soon as the foal shows a disposition to eat corn, there should be a low manger appropriated to its own use, apart from that of the mare, and at first some bruised oats with bran may be given. To pre-

vent the mare interfering with the foal, she should have her feed of corn at the same time, and be tied up. Two "feeds" a day will be enough for him, which may be divided into three, or not, at pleasure: these should be composed of bruised oats, bran, and linseed *cake* pounded fine—not linseed meal, which is of too fattening and oily a nature for him. Take care that his dam does not help him to eat it, which is easily prevented by having a bar across the doorway of the hovel, that the foal may go in under it when the mare cannot. When he is six months old, he will require another feed a day.

The earlier foals are handled the more tractable they will become; but there is no necessity for a head collar being put on until they are weaned, and then it should not remain on longer than is necessary to accustom him to the use of it.

As soon as the weather is tolerably warm, about the end of April, the mare and the foal should have the use of a large field, and be taken up in the evening. When the pasturage is plentiful, a feed of corn in the morning before they are turned out, and in the evening when caught up and consigned to their paddock and shed, will be sufficient. It is of no use to feed foals with over quantities of corn at this early period; all they require is good and nourishing food. Good heavy oats are the most likely to produce muscle; and the two feeds of these during the summer, and three or four when the autumn commences, and up to the ensuing spring, will be amply sufficient to bring any foal up to a proper standard. Foals may be weaned early or late in the autumn, according to their age, the state of their mother and her milk.

To get a mare into condition for work and to disperse the milk, keep her cool, and on hard food, with an occasional bran mash containing an ounce of nitre. Use plenty of walking exercise, but be careful not to put her to hard work till she is quite clear of milk, and able to bear a fair allowance of corn without injury. A mare with her foal only just weaned takes some months to get into condition. If this does not answer, give every other day, in a ball, $\frac{1}{2}$ dr. of iodide of iron. It acts as a tonic, and thus invigorates the system, and also causes the secretion of milk to cease.

CALLOUS LUMPS ON THE LIMBS.

Blistering with cantharides or the biniodide ointment would be the most likely means, followed by regular bandaging and cold lotions. Try first, however, a lotion composed of sal ammoniac 2oz., water 2qrts.

CAPPED HOCKS.

This disease is produced by blows inflicted on the animal's hocks, either by himself during the act of kicking, by slipping down on his haunches, or from lying down on a scanty bed, or no bed at all. In fact, a contusion of any sort occurring on the point of the hock will cause this pathological condition of it. It may arise, in common with tumefaction of other parts, from humour, and sometimes, though rarely, from rheumatic inflammation. The disease rarely causes lameness, but by most horsemen it is considered a great eyesore. The chief object in treatment is to get rid of this unsightly enlargement. Recourse may be had to the application of blisters (the biniodide of mercury, 1 part mercury to 8 parts lard), repeated as often as necessary, together with small doses of aperient medicine; hand-rubbing continuously applied; persistent pressure, either by bandage or by the application of pitch and tar, rubbed in with a brush two or three times per week, thus forming a permanent plaster, and also by cold lotions.

As a good means of pressure procure from a sadler's a cap of leather made to lace over the hock, and keep it on for two months. If at all callous rub in once a day "rendered goose fat."

CAYENNE PEPPER.

This may be substituted for ginger in balls in 12gr. doses.

CHAFING.

Try liquor from a tanyard. Let the liquor be well brushed in, first allowing the skin to get sound. Work with a false collar—"a simple piece of leather, without any lining or stuffing," worn under the regular collar. Bathe with cold water when the collar is taken off, and cover the sore with wetted fullers' earth. Whether the sore be small or large, it is better, if possible, to rest the animal, and when it has healed bathe the animal's shoulders night and morning with a solution of salt and water (but not where they are sore); but if there is a large excoriated sore, attended by local inflammation, then foment with warm water three times a day. Diminish the allowance of corn (if beans are usually given stop the supply entirely), and in their place give green meat. This, with small doses of aperient medicine, and time, will effect a cure. When the sore is again covered with skin, and the hair begins to grow, bathe with a solution of salt and water. Before putting the horse again to work, see that the harness, &c., is properly adjusted.

Again: Take a common wine-bottle of strong whiskey, and add to it sixpennyworth of good aloes, pounded: shake the bottle well, five or six times the day you make it (and always before using); let the part be well sponged with cold soft water, and then the mixture well sopped in with the hand.

As regards the absence of the hair from the part that was chafed, the application of a little sweet oil to the part night and morning will most probably have the effect; but if this fail, apply every other day a very little oil of cantharides. During the time of its application, the horse must not have the collar on, as the oil will act slightly as a blister. After its effects have passed off, the hair most likely will reappear. If, however, the excoriation has gone deep, and actually destroyed the skin, then in that case the hair will never again reappear, as there is nothing for it to grow from.

Sloughing wounds will require the use of caustic; a powder composed of corrosive sublimate one part to four parts of flour, is excellent for the purpose, and may be sprinkled over the abraded surfaces once a day. Ordinary cases will be best treated by an astringent lotion—solutions of sulphate of zinc, alum, or chloride of zinc are all good applications, and of them the most effectual is chloride of zinc (Sir W. Burnett's disinfecting fluid) in the proportion of one part to fifty of water. It can be applied frequently to the shoulders and other parts by means of a sponge. In all cases the animal's condition should be attended to, as emaciated subjects are more likely to suffer from abrasions than fat ones.

CHEST FOUNDER.

The various derangements of parts which lead to the result designated "chest founder" generally, although not always, appear suddenly. An animal may labour under diseases affecting the digestive organs, which from time to time may have been treated and therefore noticed. Paralysis of muscles from this state of things may set in, when, if the paralysis occurs to the muscles of the fore-arm, the disease is named "chest founder." In "chest founder" both fore-legs are "stiff," and, as it were, "tied," and in some severe cases the patient is unable to move. By over-work, exposure to cold, or by bad or over-feeding, the system becomes weakened, when devitalisation may finally concentrate itself in the loins, when the disease is called stomach-staggers, or in the fore-arm, when the animal is said to be "chest foundered." Treatment: Give perfect rest and a nutritious diet; administer daily two grains of nuxvomica. Locally apply stimulating liniments.

CHOKING.

Choking in horses is generally attended with violent indications of distress, by his out-stretched neck and frequent abortive attempts to gulp down something, while the saliva flows from the mouth. Occasionally these efforts become spasmodic, the head is drawn into the chest, and again protuded with violent muscular action, and the horse will now and then utter a piercing scream. It may be ascertained that an obstruction exists in a part of the œsophagus, where it may be easily manipulated; but in many instances the agent will have passed too low down to be felt, or will have been arrested at the entrance to the gullet, where it can only be reached by passing the hand into the mouth and carrying it back to the posterior part.

The best plan is that of gently manipulating the body in a downward direction, and occasionally reversing the course of the pressure so as to cause, if possible, the movement of the mass to a new position. During the time a little oil may at intervals be poured into the mouth; but care must be taken not to keep the head held up by force. A small portion of the fluid will probably run down the swallow; but the greater part will return through the nostrils, and if this is prevented the superfluous oil will run into the larynx, and not unlikely cause immediate suffocation.

COAT, TO MAKE A HORSE CAST ITS.

Give it scalded linseed, with a bran mash twice a week containing 1oz. of nitre; also keep it warm in the stable, and take care that the skin is not chilled out of doors.

COLIC.

On the appearance of the first symptoms of colic, administer a ball containing 8drs. of aloes, and throw up the rectum warm water enemata every ten minutes until relief is afforded.

The treatment to be used in the case of colic is recommended as follows in "Stewart's Stable Economy" (where draught horses are kept, this remedy should be always at hand): "Take a quart of brandy; add to it 4oz. of sweet spirit of nitre, 3oz. of whole ginger, and 3oz. of cloves. In eight days this mixture or tincture is ready for use; the cloves and ginger may still remain in the bottle, but they are not to be given. Set the bottle past, and put a label upon it; call it the 'colic mixture.' The dose is 6oz., to be given in a quart of milk or warm water, every fifteen or twenty minutes, till the horse be cured. Keep his head straight and not too high when it

is given. Rub the belly with a soft wisp, walk the horse about very slowly, or give him a good bed and room to roll. In eighty cases out of ninety this treatment will succeed, provided the medicine be got over the horse's throat before his bowels become inflamed, or strangulated, or burst. The delay of half an hour may be fatal." The following has also been recommended:—Get a bottle of spirit and pour it gradually over the horse from the shoulders along the back to the tail, rubbing it in as quickly as possible. Cloth him then very heavily, keeping him close with a roller, placing haybands round the quarters where the cloths do not touch. This will bring on a profuse perspiration which will cure the horse.

CONCUSSION.

Concussion to the head causes loss of consciousness more or less complete, and this is sometimes accompanied with stertorous breathing. Application of cold water to the head will assist the recovery, and the animal should be placed in a comfortable position, with the head slightly elevated. Bleeding is unnecessary in most instances. No attempt under any circumstances should be made to administer fluids to an animal until he has recovered his consciousness. There is no objection to sponging the nose and lips and allowing a little water to run into the mouth; the attempt to swallow will be the first sign of recovery.

CONDITION.

Allow one quartern of oats with a little bran and a double handful of chaff for a feed, to be repeated four times in the day. Let the animal have also a truss of good hay per week, and once a day a few carrots; work moderately, and until the condition improves a long journey every second day will be enough.

The following is an old remedy: "Take a sheep's head, boil it till almost in a gelatinous state, and well mix with enough bran to form into balls. For the first two or three days the horse must be fed by working the mixture with the fingers between his grinders. He will gradually swallow small portions, and on the fourth or fifth day will readily eat it himself. One head a day should be given, and half the horse's allowance of corn taken away."

Some recommend the following: "Take a quantity of barley and put it in a glazed tin, over which pour just enough boiling hot water to cover it, take care no steam can escape, and then let it soak. On the following morning put some molasses into it, and stir it all up, when it is (or ought to be) like a thick pudding." Give the horse some of this mixed with his corn four or five times a day.

Give a ball once a day, composed of carbonate of iron, gentian, and ginger, of each two drachms, mixed with honey to form a mass; allow liberal rations, and exercise moderately. Or else give every day for a fortnight a ball containing sulphate of iron half a drachm, with gentian, ginger, and turmeric, of each one drachm.

Again: Administer five drachms of aloes in a ball. After the effects of this have passed off, sprinkle nightly over a feed of oats half an ounce of liquor arsenicalis; the administration of the latter to be continued for six weeks.

Carrots are highly restorative and alterative, and are always given raw, thinly sliced, with their food every day for six weeks. No food is more restorative after a severe illness. They are good for coughs, grease, and foul humours, and are, besides, very cooling to the blood.

Nettle-seeds (about twenty seeds a day only) were once considered a remedy with jockeys and others.

Try pounded gorse, it improves the coat; about two handfuls a day.

To keep a horse in good condition care must be taken as to what you feed him on:—One fourth barley and three-fourths oats, with a slight admixture of beans when given to the horse, tends more than any other corn to produce the muscle and fat which is wasted during the working hours. Barley does not offer so great an amount of flesh-forming compounds, but tends more to the formation of fat. Beans contain twice the amount of flesh-producing substances either of oats or barley.

Condition Powders.—1. Black antimony, 4oz.; flowers of sulphur, 2oz.; bean-flour or barley-meal, $\frac{1}{2}$ lb.; a table-spoonful with their corn. 2. Sulphur, 2lb.; fenugrec, 4lb.; cream of tartar 1lb.; liquorice, 1lb.; nitre, 1lb.; black antimony, $\frac{1}{2}$ lb.; gentian, $\frac{1}{4}$ lb.; aniseed, $\frac{1}{4}$ lb.; common salt, 1lb. Mix well; dose, 1oz. daily. Give your horses plenty of walking exercise for six weeks, with one or two physic balls—the feeding at first should be gradual. Horses should have a large piece of chalk or hard lime put in their water-cask. In India, 2oz. of powdered catechu are given for some time, for the purpose of taming vicious horses; while in some parts of France jockeys are said to stupefy vicious horses for sale by tobacco suffused in spirits.

CONGESTION OF THE LUNGS.

The predisposing causes of this affection are plethora, occasioned by high feeding (particularly upon beans), hot stabling, warm clothing, and by exercise to which the creature has never previously been subjected, and which render the lungs more susceptible to cold

and less able to resist the attacks of it. Alternations between heat and cold, more commonly from cold to heat than the reverse, are alike productive of congestion.

Congestion of the lungs is seldom ushered in by any premonitory symptoms, excepting that the animal is sluggish when at work, or that he is off his feed. The patient begins to breathe laboriously (to blow); the extremities are intensely cold, the visible mucous membranes are red and injected, and the pulse is accelerated; sometimes a dry cough and constipation are present. As the disease advances, the mucous membranes assume a leaden hue, the breathing becomes very laborious; the patient lies down and continually looks round at his sides, and, when up, stands with his legs outstretched and wide apart; the pulse becoming more irregular and oppressed, the teeth grate, the mouth gets cold, and the extremities swell; and often within three days from the cause of the malady coming into operation death ensues.

To prevent is better than to cure; therefore, in bringing up a young horse from grass, previously to submitting him to work, prepare him by gradually introducing him to it. Give a moderate allowance of hay, and commence with one feed of oats, and gradually increase it to three; carrots two or three *per diem*; no beans; and, if necessary, a gentle dose of purgative medicine. Allow walking exercise at first, and from week to week increase the pace, but do not commence by exerting him to the utmost during the first month. As treatment, give food easy of digestion, such as boiled bran, oats, and carrots; clothe the patient, bandage the legs with flannel bandages, apply mustard plaisters to the sides of the chest, and administer every four hours drachm doses of the carbonate of ammonia, and the same quantity of æther, in a pint of water; if the symptoms subside and constipation sets in, give a small dose of aloes (two drachms), together with a little nitre, but still continue the administration of the above prescribed stimulants, diminishing only the quantity gradually until such time as they can be replaced by tonics. Exercise regularly, and apply plenty of friction to the skin. Sometimes, after recovering from congestion of the lungs, diseases of a low typhoid character supervene, and of course require different treatment.

CONTRACTED FEET.

As regards the bad effect of heat and drought, the removal of the cause will effect the remedy. But never allow a horse to stand on fermenting litter. When in the stable stop the animal's feet with

cowdung and wet clay, and place squabs on his feet ; this will greatly assist in preventing contraction. For treatment, pare the sole and rasp the foot well round ; remove the shoes, and, if necessary, put tips on ; blister the pastern, and turn out into a moist pasture, or a loose-box, for a couple of months. In a case of contraction attended with local inflammation, bleed at the toe and give aperient medicine ; place the foot in cold poultices.

Where contraction has been caused by bad shoeing, so arrange the shoe that the frogs shall have their fair share in the action of the foot. To this end a gradual lowering of the crust at the heels and a decrease in the thickness of the iron at the same part is to be recommended, care being taken that no nails shall be placed farther back than is absolutely necessary. A good cover should always be allowed, and the edge of the shoe should project a little beyond the crust, particularly on the outside. A mixture of tar, with an eighth part of common turpentine, should be daily rubbed on the hoof, especially round the upper part, close under the hair ; wet swabs should also be used frequently while the horse is standing in the stable.

CORNS.

Corns are caused by pressure, and generally by allowing the shoes to remain on too long without removing them. Sometimes bad shoeing occasions them from the pressure being made on the seat of the corn instead of on the crust and bars.

It is hardly possible to eradicate a corn from a horse's foot ; but by careful shoeing the animal may be kept sound. If the corn is very painful, a bar shoe is best, otherwise the ordinary shoe, set off at the heel, will answer. The important thing is to avoid pressure on the injured part. Rest for a time cures a corn, without the necessity for using caustic ; but in order to avoid their return the feet must be gradually accustomed to pressure. Great care is required in shoeing them so as to avoid on the one hand allowing the inner heel to be too full, and on the other the cutting away the bars which by their presence tend to give strength. In some very inveterate cases, the bar-shoe must be constantly worn, but in the great majority it may be discontinued after a few months.

Contraction, again, is a predisposing cause of corn, from the falling in of the heel-walls. When the heels are allowed to grow too long, the hoof is subjected to a great amount of undue pressure, which is often to be noticed in the unshod foot ; and for this reason many cases of corn are contracted during a summer's run at grass, where the feet have been allowed to grow, and where no attention

for months has been bestowed upon them. A paucity of horn alike subjects feet to corns, because even slight pressure will immediately bruise the heel.

Sometimes the shoes get loose, and separate from the heels, in which cases mechanical agents, such as gravel, flints, &c., get between the shoe and the foot, and set up inflammation of the part, which results in corn.

In treating corn, the first step to be taken is the removal of the cause, and then to cut down upon the disease and let out the extravasated blood. If contraction be present, the heels should, in addition, be carefully thinned, and a shoe should be placed upon the foot, so adapted as to be laid off the injured part. In addition stimulate the parts by dressing them daily with hydrochloric acid and water—a teaspoonful of the former to half a pint of the latter—and fill the aperture with a piece of tow; afford greater protection by means of a larger web, or plenty of cover to the shoe; and pare away from time to time such pieces of horn as by undue growth cause pressure. Corns, unless cured soon after their appearance, ever afterwards, unless continually and carefully attended to, become a source of irritation, and the consequent cause of lameness.

COUGH.

For cough in a horse give rest, and feed nightly on a bran mash and carrots, and administer a ball containing $\frac{1}{2}$ dr. of the iodide of iron and the same quantity of belladonna. Or administer 2dr. of assafoetida and $\frac{1}{2}$ dr. of the extract of henbane, to be administered daily.

In cases of chronic cough much benefit is derived from daily doses (4oz.) of cod liver oil. You may also give the iodide of sulphur every second day, made into a ball with linseed meal and honey. Or try 5gr. of white arsenic mixed up with some bran and sliced carrots, twice a day.

Some practitioners advise to administer $\frac{1}{2}$ dr. henbane three times a day. Give it either on the animal's tongue so that it may dissolve, or give it in a bran mash. Feed freely on carrots and keep the bowels gently open. Where the cough and cold is but slight, give him mashies with scalded linseed every night, dissolving in the water $\frac{1}{2}$ oz. of nitre. Take nearly all the corn away, and if the bowels are confined give a gentle dose of physic after the mashies have had time to soften the dung. Or, administer every other day a ball, containing 1dr. of aloes, $\frac{1}{2}$ dr. of digitalis, and $\frac{1}{2}$ dr. of extract of henbane, made up with common mass.

Where the cough is of some standing some apply a blister of biniodide of mercury ointment, and administer $\frac{1}{2}$ oz. iodide of potassium, 1oz. iodide of sulphur, 2oz. cinchona bark, a teaspoonful given in the food every other day. Where the horse is but slightly affected, but appears rather weak, intimately mix together 1oz. of powdered camphor with 1lb. of honey, of which give a table-spoonful every morning; and at night administer a ball containing $\frac{1}{2}$ dr. of iodide of iron. Continue this treatment until a cure is effected.

Again: Buy 1 pint linseed oil and 2oz. nitre (sweet spirits); give (with a horn) half of each one day, and the other half-pint and 1oz. the next.

CRACKED HEELS.

In acute cases remedial measures must be used internally rather than externally. The following are the most marked symptoms of the disease:—The horse's condition is good, but the skin and coat is harsh and rough, the skin under the fetlock joint at the back of the leg contains a few angry looking cracks, whilst the heels are puffy and hot. The horse runs evidently in great pain. Place the animal in a loose box, but do not give too much litter. Let the food be of easy digestion, and not too much of it. Give at first, for three days, bran mash, and then a mild dose of physic, after which feed on oats (bruised), carrots, or green food. Give nitrate of potash one drachm, and sulphur half an ounce, every day until the heat and swelling in the heels subside. This mixture may be given mixed with their food.

Dress the heels with water bandages, covered over with oil silk, and foment the parts once a day with *warm* water—not hot—for about an hour. Discontinue the water dressing when proud flesh appears. Now mix corrosive sublimate with four times its weight of flour, and place it on the wounds; two or three applications, at an interval of two days, will generally work a cure. When the wounds have healed, keep the skin moist by glycerine put on daily, and see that the heels are thoroughly brushed and for some time not washed. Some veterinary surgeons recommend, after the constitutional remedies have been used and the wounds healed, to apply locally an ointment composed of iodide of potassium one part, with four parts of lard and four of glycerine. It should be well rubbed into the skin morning and night, the horse meanwhile being allowed only walking exercise, in order to avoid the risk of cracking the heels. At the end of a week an ointment of biniodide of mercury should be substituted for the iodide of potassium. The ordinary red ointment,

diluted with four parts of lard and four of glycerine, will be sufficiently strong. Great care is required in using this remedy, to cause an increased secretion of cuticle, and a little soreness without blistering. Should the action of the ointment be too strong, withhold it for a day or two. The treatment should be continued, with occasional intermission, for at least two months before the horse is tested in ordinary work.

The two following recipes for simple non-inflammatory cracked heels have been recommended :—(1.) Besmear the affected parts with glycerine, never wash or expose the heel to draughts, and administer nightly a ball containing half a drachm of the iodine of iron. (2.) If in good health and not requiring physic, which is, however, generally useful, keep them very dry, and apply the following ointment, viz., ointment of nitrate of mercury 1 dr., zinc ointment 1 oz. —mix.

A very excellent heel ointment, applicable to simple non-inflammatory cracked heels, is composed of carbonate of lead (white lead) and powdered camphor, of each equal parts, added to eight parts of melted lard, and stirred until nearly cold. This perfectly white ointment may be coloured to suit the colour of the horse's legs by adding various proportions of lamp black and Armenian bole. The ointment will have to be applied daily for some time, and especially before the animal is taken out to his work.

Where these remedies fail, try 4gr. or 5gr. of white arsenic in the corn twice a day, continuing the glycerine application twice a day; or apply the following ointment—creosote 1dr., spermaceti ointment 1oz., and keep the horse cool.

Common salt absorbs moisture from the atmosphere, hence it has been in some instances applied with great success for keeping the hard-bound hoofs of horses moist. The hoofs of some horses become dry and oftentimes crack, thereby rendering them lame if the animals are driven on hard roads. Bathe the hoof and fetlock joint with a salt brine three times a day, and lameness from the above cause will be avoided. It is a common practice with some blacksmiths to rasp cracked hoofs in order to render them more tough; but salt brine is far superior to rasping for effecting this object.

CRIB BITING.

No. 1.—The treatment of crib biting is entirely mechanical, and must be varied to meet the peculiarities. If the horse only cribs in the ordinary way, the removal of all aids, and the arrangement of feed-

ing troughs and rack on the ground, will probably discourage the animal.

No. 2.—A remedy which may be considered universally applicable is the throat strap, which must be buckled rather tightly round the neck, close to the head, in such a way that considerable pressure shall be inflicted on the larynx. This plan usually succeeds. It is, however, unsightly, and blemishes the horse by wearing away the hair.

No. 3.—Have a bit made of a hollow iron tube, open at each end, with a few holes drilled in it (like those in a flute or fife) in the side towards the opening of the mouth, to be attached to the head-stall, and worn constantly, except when the horse is feeding; a piece of an old gun barrel would answer the purpose.

No. 4.—Buckle moderately tightly a small strap round the horse's under jaw (inclosing the under lip), between the teeth and the tushes. The strap must be tight enough to prevent its falling off, and not too narrow a one, or it will cut the gums. The mode in which it acts is that it prevents the edge of the under lip from closing on the upper one when the mouth is closed; the horse cannot therefore fill his mouth with wind, to gulp it down afterwards, as the wind escapes at the open side of the mouth made by the strap as fast as he sucks it in.

No. 5.—Put a rough, shaggy old sheep's skin over the bar of the manger, or any part of the box or stall that a horse can catch hold of with his teeth.

No. 6.—Rub all the places with spirits of tar, it dries into the wood directly, and the smell is not unpleasant in the stable.

No. 7.—Put your horse into a loose box, remove the manger bodily; let the hay-rack be made of iron, semicircular, and projecting from the wall; let the door be made quite smooth on the inside. In short, remove everything that he can possibly seize with his teeth. Do not tie him up at all, for horses will sometimes "suck" their wind by stretching their halter to the full extent. Lastly, give him his corn in a nose-bag. As crib-biting is produced partly by idleness and partly by indigestion, place a lump of rock-salt in one corner of his box, and a piece of chalk in another. By licking the first, and biting the second, he will find amusement.

No. 8.—Apply a bar-muzzle, which entirely prevents the habit without interfering with the feeding of the horse.

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CURBS.

A curb is a sprain or rupture of the fibres in a ligament which

binds the os calcis to the lower bones of the tarsus and cannon bone. It does not affect the tendon. A curby hock is more likely to throw out a second curb than one without any sign of weakness; but old horses seldom give way, even if they have suffered from curbs in their youth.

Curb is produced during severe exertion of any kind, but especially during false steps and slips, either into unseen holes or over rolling stones.

No. 1.—For a soft curb, keep it cool with vinegar and water, applied by a bandage, till all inflammation has subsided, at the same time resting the horse, and putting on a high-heeled shoe. When quite cool, apply every day an ointment composed of biniodide of mercury, two drachms; lard, one ounce. Rub in the ointment every night until the skin swells. Then desist for two or three nights, and repeat the rubbing once or twice more with similar intervals—persevering a longer or shorter time according to the extent of the curb.

No. 2.—If recently produced, rest your horse, and put on a high-heeled shoe, and apply cooling lotions, such as tincture of arnica and distilled water, to be applied through the medium of a light linen bandage. A wine-glass of tincture of arnica to half-pint of distilled water is sufficient.

No. 3.—Try spirit of turpentine, rubbed on the part every day until a thick scurf is produced.

CUTTING.

Cutting depends upon some one of several malformations, and the treatment must vary accordingly. Sometimes raising the heels will cause the pastern to bend up less than before, and this will stop the cutting. At others raising the inner heel will succeed. In any case the shoe must be kept within the foot, and no inner nails must be used.

Some advise the use of the three-quarter shoe as a preventive of cutting with the hind feet. This is equally applicable in the hunting-field and road.

When the cutting is very bad there is no resource but putting on a boot.

To decide what part of the hoof cuts the standing leg, proceed as follows: Paint the hoof over with some paint easily visible in the horse's skin, then lead him into some clean place, and if he cuts, the paint will be rubbed off the hoof on to the skin of the standing leg. Try the horse in all his paces.

A single piece of stiff thin leather, the shape of a half-moon, without any padding, is a good sort of boot for a horse that cuts. It must be strapped on a little above the fetlock. Great attention should be paid to the shoeing of horses with this defect, though it often proceeds from weakness, or when a horse is tired.

DEFECTS IN THE HORSE, EXAMINATION FOR.

The head: The eyes, for cataract, glass eyes, and specks. The nostrils, for glanders, tumours, and colds. The glands, between the brooches of the lower jaw, for enlargement. The throat, for mark of crib-biting strap, and the tenderness which accompanies cold. The teeth, for the age and marks of crib-biting. The veins of the neck, to see that both are entire. *The foreleg and shoulder:* The seat of the collar, for tumours. The point of the elbow, for tumours. The knee, for blemishes and stiffness of that joint. The shank, for speedy cut, splent, and strain. The fetlock-joint, for enlargement, windgalls, unnerving, and marks of cutting. The pastern, for ringbone. *The foot,* for side-bones, sandcrack, contractions, thrush, coins, and flat soles. The shoe, for signs of cutting. *The trunk quarters:* Each side of the chest, for marks of blisters and rowels. The space between the forelegs, for the same. The stifle, for enlargement. The groin, for rupture. The hock, for capped hock, curb, thorough-pin, bone-spavin and bog-spavin (or blood-spavin). Then the horse should be mounted and ridden a few hundred yards at a gallop, in order to quicken his breathing, and thereby display the presence or absence of roaring, thick-wind, or broken-wind.

DRENCH.

Salts may be given as a drench. The dose is from 6oz. to 10oz. or even 12oz., dissolved in whey or barley-water. A good drench for common purposes is composed of castor oil 4oz., Epsom salts 3oz. to 6oz., gruel 2 pints, mix.

ENLARGED GLANDS.

If situated in the throat, syringe the nostrils every other day with the solution of the nitrate of silver (8gr. to the ounce of water); feed bountifully on a highly nutritious diet, and administer daily a ball containing $\frac{1}{2}$ dr. of the iodide of iron.

ERYSIPELAS.

Erysipelas consists in an inflammatory action of the skin and sub-

cutaneous tissues, and, when occurring in horses, distinguished by the appearance of hot, tender swellings, generally situated on the head and hind limbs. Previous to the appearance of these eruptions the animal manifests symptoms of stupor and drowsiness, the pulse becomes accelerated, and in a few days swellings appear, the matter contained within which sometimes becomes absorbed, at other times the skin becomes purple, caused by the decomposition of the blood, when sloughings supervene. Erysipelas is brought on in predisposed subjects by wounds, or any slight injuries.

Treatment.—Mild laxatives, and diuretics should be administered; the affected parts should be continually fomented with hot water; this treatment must be followed by the administration of tonics. To prevent sloughing, it is often necessary to make incisions into the skin—this practice is attended with benefit, as it greatly tends to relieve the pain caused by the swellings.

EYES INFLAMED.

Such inflammations generally come on from the horse being stimulated in the stable. They disappear if the corn is taken away. If not very severe, try a lotion composed of a pint of water with a drachm of sulphate of zinc dissolved in it.

Where the inflammation is caused by injury, bathe the eyelids continually with cold water until the inflammation subsides, and paint the eyeball, through the medium of a camel hair brush, with a solution composed of six grains of the nitrate of silver to the ounce of distilled water.

Weakness of, and discharge from the eyes, after severe attacks of cold and sore throat, are common. As to treatment, foment the eyes five times a day with hot water, and after each fomentation bathe them with Goulard's extract, using a sponge as a medium for its introduction. Do not on any account introduce the finger inside the lid, but gently draw it back by gathering together the external skin over the adjacent parts with the finger and thumb.

Some, in similar cases of weakness, bathe the eyes with a solution of 3gr. nitrate of silver to 1oz. of water, and administer thrice weekly a ball containing $\frac{1}{2}$ dr. of iodide of iron.

Another eye disease, which is much to be dreaded, is specific ophthalmia or moon blindness. The symptoms are great irritation in the eye, the eyelid is nearly closed, the pupil contracted, great discharge of water, and if you try to raise the lid, the brow is protruded, and the eye is much inflamed, the eyeball is dull and sunken, and the eye appears clouded. The fit lasts for about eight

days, and then gradually subsides, but recurs at varying intervals. A foul stable is frequently the cause of specific ophthalmia.

Place the animal in a well drained and ventilated loose box and exclude all light. Apply a blister of turpentine and ammonia behind his ear; administer a mild purgative, after the effects of which have passed off give daily a ball containing a drachm of iodide of iron, or sprinkle over a bran mash an ounce of arsenicalis liquor; keep the bowels open by giving a purgative (two drachms of aloes) when constipation is present, and apply a bandage over the eye, saturated with a solution of tincture of arnica and water—an ounce of the former to a pint of the latter; or bathe the eye twice daily with a mixture of distilled water and Goulard's Extract, administer every night an ounce of liquor arsenicalis in a bran mash; allow no corn, but feed on green meat.

The arsenite of potass is a good medicine to use as an alterative in specific ophthalmia.

FARCY.

The following capital article on this nasty disease appeared recently in the *Field*:—"Farcy is always readily detectable. The first decided indication of farcy is the simultaneous appearance upon the skin of a number of small soft tumours of the size of a hazel nut, some of them being in the course of lymphatic vessels, which, together with the glands, are generally enlarged. The eruption of farcy buds generally commences on the part where the swelling has been most marked. In the hind extremities the fetlocks or hocks will suffer, and in the fore limbs the eruptions may exist from the fetlocks to the shoulders, extending along the lymphatic vessels to some of the glands. There will generally be observed on the skin hard corded lines, which terminate on the hind limbs in the groin, where the glands will be found to be tender and swollen; and in the fore limbs running to the inside of the elbow-joint, where there will be similar glandular enlargements. The farcy eruption, although most frequently developed upon the surface of the skin of the extremities, is by no means confined to those parts. In fact, when there exists in the system a predisposition to the disease, very slight causes, such as a blow or trifling wound, will suffice to determine the eruption to the face, neck, or side of the chest and the withers, in all of which situations it very often occurs. After a short time the farcy buds burst and discharge a quantity of matter, which varies in character from thick white pus to a thin mixture of serous and purulent fluid streaked with blood. The

swelling of the limb or other part of the body which may be the seat of the disease rapidly increases; the abscesses take on the ulcerative process, while the skin below the discharging wounds becomes irritated and denuded of hair by the action of the acrid fluid. In very severe cases the constitution suffers, there is extreme languor present, with loss of appetite and derangement of the secretive functions, the skin becomes adherent to the subjacent tissues, the hair of the mane and tail is easily pulled out, the animal is incapable of enduring the slightest exertion without distress, and ultimately dies from exhaustion. The strength of the internal remedies will be regulated by the state of the system. Tonics, both mineral and vegetable, are required, and they must be administered subject to the condition of their not affecting injuriously the horse's appetite. To avoid this great care is necessary. Salts of iron, copper, and zinc, cantharides, capsicum, gentian, and ginger are the agents which are most successfully used; and, if possible, it is desirable to give them in the animal's provender, as being the most ready way. When the state of the appetite renders this method inapplicable, the medicine should be given in a draught; or, if made into a ball, a stick or balling instrument should be used, to avoid the danger of scratching the hands. The dose of the metallic salts will vary from twenty grains to a drachm, combined with two drachms of powdered gentian, or with an ounce of the tincture of gentian. If the mixture be made into a drench, sulphate of copper is very generally used with benefit. Biniodide of copper has also proved successful, and sulphate of iron is by some recommended. Powdered cantharides have been given in doses of four grains, combined with ten grains of capsicums, in the provender, with occasional success in cases where symptoms of glanders have been apparent. The agent which is most generally useful in the treatment of farcy is undoubtedly sulphate of copper, which will be readily taken in the food in half-drachm doses, and may be safely continued until it produces a positive effect, which will be indicated by loss of appetite, when the agent should be withheld for a time. Styptic and caustic applications to the ulcers will much assist the cure. If any buds remain unbroken, they should be at once punctured with a lancet, and directly afterwards the whole surface should be dressed with a solution of chloride of zinc in the proportion of one part of Sir William Burnett's disinfecting fluid to eight parts of water, and the worst ulcers—all those which do not appear to be healing—may be touched with the undiluted fluid, by means of a piece of sponge on a stick, or lunar

caustic may be employed instead of the solution of zinc, and carbolic acid may take the place of either. If the treatment is successful, there is generally left a chronic thickening of the integument of the diseased part, with numerous hard knots, which mark the situations of the original farcy buds. It is not to be expected that the complete removal of this morbid condition can be effected, but the enlargement may be reduced by the application of stimulating liniments with friction, or what is better, the use of the ordinary liquid blister or oil of cantharides, which may be safely applied over an extensive surface. A great increase in the swelling of course follows the blister, but in a few days it subsides, and with it a considerable portion of the original tumefaction. A repetition of the blister on several occasions at short intervals will be advantageous where it is of much importance to reduce the limb to its normal size as nearly as possible. When the cure is apparently complete it is still necessary to exercise great caution in putting the horse to exertion; even in the most favourable cases there is great debility produced by the disease, and sudden or excessive exertion is often followed by death from congestion of the lungs or from general prostration."

FEVER IN THE FEET (LAMINITIS).

We extract the following note on this disease from an able article that appeared in the *Field*: "Horses most subject to fever in the feet, or acute founder, or laminitis, are those employed in heavy draught work. One variety of the affection is found in horses of all ages and breeds—that form of it which is secondary to an acute disease of some internal organ; thus it has often occurred after a severe attack of influenza or bronchitis, or inflammation of the intestines. The causes of inflammation of the feet are generally mechanical—concussion or strain of some kind is concerned. Hard riding on hard roads will sometimes occasion a very acute attack; the gambols in which a horse will indulge when turned out to grass may be the cause of an inflammatory attack, if the shoes have been removed and the ground happens to be dry and hard. Standing for a long period in the stable, supporting heavy weights down hill, tight nailing, are all included. It is customary to describe three particular stages of laminitis, the acute, subacute, and chronic, which terms may be interpreted to mean the most violent inflammation in the first case, a more subdued and less active form in the second, and a still lower variety, hardly amounting to inflammation at all, in the third instance. Acute laminitis, as we may term all cases where there are intense pain and constitutional disturbance, is

indicated by very marked symptoms. The horse manifestly suffers much ; his breathing is quick, his pulse bounding, his countenance distressed : he stands with his hind legs much drawn under him, and his body thrown backwards to relieve the fore feet, the heels of which are made to receive his weight as far as possible. If the animal be compelled to move, which is sometimes impossible, the action is singularly awkward and stiff, the heels of the affected feet are placed first on the ground and the toes elevated, and during progression all the muscles of the body appear to be rigid. The feet will be found to be hot to the touch, and if tapped with the finger nail even an increase of pain is the result ; the arteries above the coronets will be felt to throb violently, and the horse steadily refuses to allow either of the affected feet to be lifted from the ground. Sometimes the horse lies down, and occasionally struggles and groans like an animal suffering from internal spasm. At the commencement remove the shoes, in order to cut out the soles until they yield to pressure readily. If the horse is now found to stand tolerably well without the shoes, they may be left off ; and the feet, after being soaked in warm water, should be covered with warm, not hot, poultices of bran and linseed meal. Constitutional irritation may be combatted by bleeding and laxative medicine, in conjunction with sedatives and opiates to allay pain. Should there be no improvement in the course of twenty-four hours, the case may be looked upon as hopeless as far as a restoration to soundness is concerned. The animal may live and be capable of performing some amount of work, but the feet will always be excessively tender, and unless great care is taken in adapting the shoes so as to avoid pressure upon the sole, which generally bulges, and sometimes becomes quite convex instead of concave, severe lameness will result. In consequence of the ordinary methods of treatment being as a rule ineffective, expedients that are rather desperate than legitimate have been had recourse to, occasionally with success. Among these frog setons are the least violent, and are said by those who have tried them to produce in some cases most satisfactory results.

“Subacute and chronic fever in the feet may occur independently of acute inflammation. An acute attack of fever in the feet is, or should be, at once detected ; but subacute or chronic inflammation may not be observed until the structure of the foot has become changed and the action seriously impaired. After the disease has existed for some time the hoofs present a ringed appearance, as though the horny matter were secreted in ridges. These rings encircle the foot completely, and sometimes extend, at intervals of less

than half an inch apart, from the coronet to the ground surface. There is no severe pain present in subacute or chronic laminitis, and consequently no indications of constitutional irritation, as in the acute form of the malady. The subacute stage is distinguished from the chronic by the more decided character of the lameness and greater amount of heat in the feet, but it must be admitted that in many cases the two degrees are so closely allied that it would be difficult to decide where one ceases and the other begins. One variety of chronic fever in the feet, which is more properly the subsidence of the most acute form, is seen in what is termed pumiced foot. In this disease the foot becomes elongated, the ridges of the horn are remarkably developed, the hoof is altogether distorted, the sole becomes convex and bulges beyond the crust, the entire hoof structure is brittle, and in places where the external shell is broken presents the appearance of pumice-stone.

“Notwithstanding the extensive alteration in form and structure of the feet, horses so affected have worked hard for years without apparently becoming much worse.

“Treatment of subacute and chronic laminitis must be based on the principle of palliating what cannot be radically cured. When the lameness is very severe, and the feet are exceedingly hot and tender, the shoes should be removed and the soles well thinned; after which bleeding from the toe is to be recommended. Wet swabs should also be applied to the feet, and a dose of physic given; rest, as a matter of course, in a loose box being enjoined for at least a fortnight, after which a little walking exercise on soft ground will be beneficial. In the event of the lameness continuing unabated at the end of the second week, a blister round the coronet is likely to do good. When, by the adoption of proper treatment, the lameness has been relieved, great care will still be necessary to preserve the horse in working condition. Shoeing is most important. The iron should be so adapted to the foot that no pressure is inflicted upon the sole, which must at the same time be well protected by a good cover. A good bearing should also be given to the heels. In many cases horses work most comfortably in a bar shoe, which may be arranged to suit any kind of foot, as it may be made heavy or very light, according to circumstances. The constant employment of swabs to the feet while the horse is in the stable has a beneficial effect, and the use of some compound of tar and turpentine with fatty matters, melted to form a common hoof ointment to be kept in the stable for daily application, will contribute to lessen the brittleness of the horn, which is one of the chief difficulties the shoeing

smith has to contend with. Where it is desired to make the most of the animal's capabilities, soft ground will be selected if possible ; hard, dry roads are very unfavourable, and a willing horse, which might be almost useless if compelled to work upon them, would be capable of doing a great deal of duty upon a farm, and would be even benefitted by the exercise on soft land. If, in addition, his feet are carefully attended to when he returns to his stable, no better system of treatment for cases of chronic fever in the feet could be devised."

Many hunters are inclined to fever in the feet. Anything that diverts the inflammation from the foot, after work, is beneficial. As a blister rapid in its effects try Farrell's Vesicant, and a little of this, painted on round the coronets after a hard day with hounds, has the best possible effect. Then, last thing at night, put the fore-feet in bran poultices till the following morning. A horse, especially an old one, whose joints fill and are stiff after hunting, will be much benefitted by being bandaged, last thing at night, with flannel bandages wrung loosely out of the hottest water that can be borne ; over these dry flannel bandages are placed, and left for the night. In the morning the inner bandage is dry and the outer one wet. The legs should be fine, and will generally be found so.

Instead of bran poultices some place the feet in squabs previously well saturated with a solution consisting of a wine-glass of tincture of arnica to half a pint of water, and never feed animals with feet having a tendency to fever on beans.

FIRING.

Previous to firing a horse, he should be placed for a fortnight on a low diet, and after the operation he will require three months' rest ; during which period, if possible, turn out to grass and give one feed of oats daily, or place the animal in a loose box and supply him with two feeds of oats and green meat daily. A horse often goes lame after firing, the lameness being the result of the curb for which the animal was fired. If necessary at all, the firing iron must be applied in such a manner as to leave no doubt of its producing a more decided effect than any other form of counter irritation, and for this purpose one deep cut through the centre of a bony tumour is far preferable to a series of marks which only affect the skin without impinging directly upon the structure of the morbid growth which is causing the mischief. The operation is comparatively painless, quickly performed while the animal is standing, and affords in many cases immediate relief. For the purpose of encouraging suppuration

after the incision has been made with the firing iron, a little cantharides ointment may be rubbed over the part, and subsequently daily dressings with digestive ointment will keep up the suppurative action as long as may be considered desirable. When the wound begins to heal, care must be taken to control the excess of granulation by the judicious use of caustic, which will materially lessen the amount of blemish.

FLAT FEET.

Cow-dung stopping should not be applied very frequently to flat feet, as the horn is softened too much by it. We should advise an occasional application of oil and tar, and the use of shoes with a very broad web to protect the soles.

FROTHING AT THE MOUTH.

There is no cure for frothing at the mouth of the horse. It may be lessened by the use of a tight noseband. Some wash the horse's mouth out with the following mixture: 6dr. of alum dissolved in a quart of sage tea, using it in a wine bottle, as you would refresh a racehorse after a race, each time you go out.

GASTRITIS.

Try the following stomach ball:—Blue pill 1dr., Barbadoes aloes 1dr., extract of gentian 2dr. Mix, and give every day for a week, then twice a week for some little time.

“GETTING CAST.”

“Getting cast” may arise from either accident or disease. When a horse in lying down gets into such a position with regard to the sides of his box that he finds it impossible to rise, he will struggle until completely exhausted, and, unless relieved, would ultimately die. The cure for this is of course easy when the accident is shortly discovered; simply drag the beast away from the impediment, and he will rise of his own accord. Should he, however, have lain so long as to become incapable of rising, and the side he lies on is numbed, pass a sack under the belly, fastening the two ends over his back to a rope running through a pulley attached to the roof, and so haul him up, keeping the animal in an upright position whilst the numbed side is rubbed with dry straw. It is perhaps advisable to give him an enema. When a horse becomes cast in a field it is desirable to try what can be done by manual aid alone at first, by turning the horse completely over, placing his legs in a proper position, and assisting him in his efforts to rise. Should these means fail, cause

two large holes to be dug in the ground close to the horse's fore and hind feet, and then gently tilt the animal until his legs slip into the holes. A short rest in this position enables him to use his limbs and to step out of the holes.

GLANDERS.

One symptom of the disease is enlargement of the glands under the jaw, and this, together with a discharge from the nostrils, is sufficient to render the animal suspected. There are two quite distinct varieties of the disease, one form of it being very rapid, while the other is attended with only occasional or comparatively trifling deviation from health, and may exist for a considerable time without causing much perceptible injury to the animal's health. The symptoms of acute glanders are profuse discharge of mucus from the nostrils, extensive ulceration of the membrane, which is streaked with lines of red, and in some places has a leaden hue ; the appetite is quite lost ; the respiration soon becomes difficult. After a day or two the secretion from the mucous membrane is largely mingled with blood, complete prostration follows, and the horse dies from exhaustion.

An animal suffering from debility and loss of appetite, with emaciation and a harsh state of the coat, discharge of sticky mucus from the nostrils, ulceration of the nasal membrane, cough, and quickened respiration, may safely be pronounced to be "glandered;" but when the symptoms are confined to the head, and the appetite and condition are unaffected, only the experienced examiner can form a correct opinion. Glanders is sometimes so closely allied to some forms of catarrh and nasal gleet that it is very difficult to distinguish between them. Glanders is, however, an incurable disease, while the affections which resemble it usually yield to proper treatment. If thought desirable to attempt any alleviation of the disease, sponge the parts with a strong solution of chloride of zinc several times a-day ; and give large doses of yeast mixed with a little porter or beer daily for two or three weeks. Let the groom take care to wash his hands well afterwards in the solution of chloride of zinc, as a precautionary measure against infection.

GREASE.

In an obstinate case turn the horse on to a pasture, and feed him whilst out on corn and hay. Wash the legs twice daily with soft soap and hot water, after which dry them, and rub into the affected parts a liniment composed of equal parts of olive oil and turpentine, and

sprinkle nightly over a feed of corn half an ounce of liquor arsenicalis. The disease will require time before it yields to treatment. The liquor arsenicalis may be continued two or three months, during which time the horse does his work as usual. Two or three hours' exercise knee deep in salt water is a good thing. A remedy much used by some practitioners is a lotion composed of carbolic acid (pure) and glycerine, of each $\frac{1}{2}$ oz., with one part water, to be applied frequently. The legs should be kept free of dirt and wet.

Some veterinarians contend that the diet should be of a cooling nature—such as bran mashes, carrots, and no corn of any sort. Give (at night) 1 dr. of calomel, and (in the morning) 4 dr. of aloes. Let the diseased parts be washed twice a day with soft soap and water; and, if inflammation is present, or the feet are hot, apply carrot poultices. After their removal daub the parts with diacetate of lead for two days, and then apply an ointment composed of 1 part of finely-powdered alum, 1 of turpentine, and 4 of lard. If possible, rest the animal, and turn out into a pasture.

The easiest application is to tie one end of an old stocking above the hoof, fill it with bran, and tie the other end below the hock; then pour a pitcher of warm water down the leg until all be thoroughly saturated. Do this several times a day; let the bran be turned out and renewed daily.

Boiled potatoes with bruised oats is a good feed for animals inclined to break out in humours; it keeps them in good condition and they are very fond of it. Give the horse the following: Aloes, 1 dr.; emetic tartar, 1 dr.; sulphate of copper, $\frac{1}{2}$ dr., make into a ball with palm oil; one ball twice a week. Allow plenty of clean straw, and keep the stable free from ammonia. The following, as a poultice, is recommended: Turnips and onions each $\frac{1}{4}$ peck; Venice turpentine and lard each $\frac{1}{2}$ lb.; alum, 1 oz.; oatmeal sufficient to make it of a proper consistency. The onions and turnips to be boiled until soft, and whilst warm the other ingredients to be added.

The following recipe has been recommended: Administer daily in the water the animal drinks a tablespoonful of nitre, and feed on bran mashes and carrots; poultice the affected parts on four consecutive nights, when well wash the legs, and dress with Burnett's solution of chloride of zinc, 1 oz. to a pint of water.

As a variation to the above, administer daily in the water the animal drinks two drachms of nitre, and weekly a ball containing one drachm of aloes. Dress the affected parts with chloride of lime and lard, three drachms of the former to an ounce of the latter.

GRIPES.

Administer one ounce each of tincture of opium and nitric ether, with a pint of warm water, to be repeated in an hour if necessary.

HERNIA.

An able correspondent of the *Field* thus writes: "Of the several forms of hernia the most frequent are ventral hernia and umbilical, the first being the result of an injury which may be inflicted at any period in the animal's life, and the second the consequence of protrusion of the intestine through the natural opening. Ventral hernia arises from blows from blunt instruments. A thrust from the horn of an ox, violent exertion in the hunting-field, falls on the road while in harness, struggles during operations, and violent efforts to rise after a fall, are among the causes of ventral and also of inguinal hernia. The first indication of the accident will be the appearance of a soft swelling at the point of injury, and this on examination will be found to possess the characters of a hernial tumour; it will generally be free from excess of heat, and the animal will give no sign of suffering while it is being manipulated, unless there should happen to be inflammation from the recent hurt, or the intestine has become strangulated. The discovery of the opening in the walls of the abdomen, and the reduction of the hernia by pressing the intestine back into the cavity, will be positive evidence of the character of the enlargement.

"Treatment of ventral hernia must be regulated by the extent of the rupture of the abdominal walls, the position of the tumour, and the date of the injury. If the case is recent, the opening in the walls of the cavity small, and the position of the injury favourable to the application of a bandage or compress, pressure may be employed with good effect. A firm pad of leather properly stuffed with tow or wadding must be adapted to the part, and retained in the proper position by means of a bandage, which may be fastened by lacing in such a way that it can be tightened when necessary without being removed or displaced. Adhesive plasters may in some cases succeed, but it is difficult to obtain the requisite degree of pressure. Stimulating applications to the integument are recommended for the purpose of causing effusion beneath the integument, and thus establishing a temporary compress, which may be continued as long as required by a repetition of the dressing. An ointment composed of neutral chromate of potash is said by M. Fœlen, a Belgian veterinary surgeon, to be very effective in the treatment of umbilical hernia; and if so, it might be equally beneficial in its

effects upon small hernial tumours in other situations. The ointment is made by mixing one part of the neutral chromate of potash with two and a half parts of lard. It should be applied with friction all over and around the enlargement, and be repeated on the following or second day. Much swelling is said to follow the employment of the ointment; and when it subsides the hernia is found to be cured. This and other stimulating compounds will be restricted to the treatment of those comparatively unimportant cases of disease where the tumour is small and easily reducible. When hernia is irreducible—that is to say, when the portion of the intestine cannot be returned to the abdominal cavity through the opening which exists in the walls, in consequence of the smallness of the wound or the existence of adhesions—an operation will be necessary to effect the reduction.

“Strangulated hernia is indicated by very marked symptoms of abdominal pain; the animal appears to be suffering from spasmodic colic, and expresses his uneasiness by lying down, rising again, and sometimes struggling and rolling during a paroxysm. The surface of the body is covered with perspiration, the pulse is full and quick, the nostrils dilated, respiration accelerated, and all the signs which mark violent internal pain are present.

“Seldom will there be any difficulty in detecting strangulated hernia if a proper examination is made; the mere fact of hernia existing should be in itself suggestive of the possibility of the accident; and when an animal known to be the subject of rupture is observed to suffer abdominal pain attention should at once be directed to the hernial tumour, and if this is found to be tense, glossy in appearance, and painful to the touch, it will be tolerably evident that the intestine has become strangulated. Alteration in the temperature of the tumour will always be noticed when strangulation has occurred; while the inflammation is active the tumour will be hot, but as soon as inflammation has given place to mortification or death of the part the temperature falls, and the enlargement is distinguished by the cold clammy feel, which is not likely to be misunderstood. In the early stage of strangulation there is a possibility of dealing with it successfully, but when the surface of the enlargement has become cold, and the signs of abdominal pain have ceased, no treatment is likely to be of use.

“Umbilical hernia is frequently present in foals and calves, and although the enlargement in many instances may be small and productive of no inconvenience at the time, it often increases very rapidly, in consequence of the protrusion of a large portion of

intestine during some violent and sudden strain ; and hence it is important not to disregard the first indication of the mischief. Much greater importance is to be attached to the existence of umbilical hernia in foals than in calves ; but when these are intended for store stock, it is desirable to reduce the hernia at once.

“In most cases umbilical hernia is distinguishable at some little distance from the animal, by the swelling or pouch-like tumour which indicates its existence. An examination of the enlargement of the navel (umbilicus) will lead to the detection of an opening in the walls of the abdomen, through which the contents of the sac may be gradually pressed by careful manipulation, but which return and swell the tumour to its original size immediately that the pressure is removed.

“In treating umbilical hernia, some mechanical means must be devised for the purpose of overcoming the tendency to the descent of the intestine through the opening in the abdominal walls. An operation which is usually performed generally effects the desired end. In the first place the animal, foal or calf of six weeks or two months old, must be cast and placed on its back. The hobbles which are used for casting colts for castration, by pulling up the hind legs, are best for the purpose. When the animal is down, the hind legs are to be secured against the body, and trusses of straw, or sacks stuffed with straw, are to be so placed that it may be supported on its back. In this position the intestine will probably return to the abdominal cavity without any manipulation ; but should it not do so, the reduction of the hernia may be effected without difficulty. This having been done, the next step in the operation is to grasp with firmness the loose portion of skin which forms the pouch in which the protruded intestine was contained, and then to thrust an iron skewer, about four inches long, previously sharpened for the purpose, through the sides of the pouch, and close to the abdominal walls. If the integument has been held firmly, or rather pinched, for a few minutes before being transfixed, the pain which is inflicted is very trifling, and the animal offers no resistance. As soon as the skewer has been passed through the pouch a piece of whipcord is to be carried under it close to the animal's body, and tied as tightly as possible at the base of the tumour. A few successive turns of the twine may then be made, each one being securely fastened, until it is quite certain that the portion of skin is strangulated. The sharp end of the skewer may next be turned into the form of a ring by the aid of small pliers, and the operation is completed. The skewer prevents the slipping of the ligature, and, if

the cord has been drawn sufficiently tight, the part will be effectually strangulated, and will slough off in a week or ten days; while the swelling, which always follows the operation, tends to prevent the return of the intestine, and favours the closure of the opening in the abdomen. If the ligature has not been drawn tight enough, or the skewer has been omitted, the swelling which subsequently occurs causes the displacement of the cord, considerable irritation may follow, and at best the operation has to be repeated."

The ointment of neutral chromate of potash, as above stated, is recommended as a substitute for the operation, and it is said to answer the purpose admirably; but it cannot be more effective, and it is questionable if it is more humane in its mode of action. When the strangulated portion of skin has sloughed off no further treatment is required, the animal is not subject to a return of the affection, and is practically as sound as though it had not been the subject of hernia.

In very slight cases feed solely on a limited quantity of bruised oats, and nature will in most cases effect a cure. Should this not be the case have a roller with a pad placed over the rupture and kept there for six or seven weeks until the hole is perfectly closed; the gut, if it protrudes, to be put up with the finger before applying the pad. The roller would be improved by having a small piece of gutta-percha or Indian-rubber added to the bandage for elasticity in lying down and rising. It is indispensable to keep the gut up by the bandage for the time being, when the hole will gradually close up. The foal should be kept in a loose box, where it could be frequently visited to see the bandage was all right.

A veterinary surgeon of considerable standing recommends to pine the foal nearly to death, but to do it gradually. By keeping the foal very short of food and water, the contraction of the intestinal and other tissues is so great that the gut is drawn out of the scrotum, and the opening before-mentioned becomes much smaller in consequence. In course of time, if you find the hernia reduced, put the foal on to more liberal diet, but do it gradually, and with food containing great nutritive powers, avoiding for a time that of a bulky nature, such as hay, straw, grass, and water.

HIDEBOUND.

The "hidebound" is the result of derangement of the digestive organs. Give the horse a powder composed of calomel 10gr., tartarised antimony 20gr., powdered gentian 2dr., every other day in his food for a fortnight.

For dietetic treatment give a medium temperature, pure air, food and water in proper quantity, and of good quality ; good grooming, and exercise proportioned to the amount of food given and the strength of the animal, but always regularly. If the amount of food has been hitherto excessive, the quantity should be reduced. A change of diet is also most desirable. Medicine may be given in the food, in the form of powder, if it is not found to prevent the animal feeding. A mixture of alkalies with vegetable tonics will promote digestion and improve the secretions. A good mixture is one drachm of bicarbonate of potash, with half an ounce of powdered gentian, given daily, and a portion of rock salt kept in the manger. Should no benefit result from this system, it will be evident there is some yet undiscovered cause, which must be sought for.

HOCKS ENLARGED.

Administer every other day a ball containing half a drachm of the iodide of iron, and apply around the hocks linen bandages to be kept continually moist with tincture of arnica and cold water—a wine glass of the former to half a pint of the latter.

HOOFS, TO PROMOTE THE GROWTH OF.

A mixture of equal parts of tar, tallow, and Venice turpentine, melted with a little wax to form an ointment, will promote the growth of the hoofs, and improve their condition. A small portion of the ointment should be daily rubbed round the upper part of the hoof under the hair of the coronet, immediately at the point of junction of the integument and the horn.

INFLUENZA.

In the spring and autumn influenza generally prevails among horses. It is also very prevalent among young horses when introduced to stable life for the first time. Influenza is distinguished from ordinary cold principally by extreme prostration. Always of a low fever type, influenza presents itself under various forms. Sometimes the liver is principally affected, and bilious fever is the result ; at other times the chief irritation is in the throat, the head is protruded, and the act of deglutition is difficult. Occasionally the bronchial tubes are implicated, and much disturbance of the respiration occurs. Dropsical swellings are not unfrequently observed in different parts of the body, principally in the extremities, but also, in some instances, under the throat, in front of the chest, and underneath the belly : this occurs principally on the fourth

day. The first form of the disease is always marked by intense yellowness of the membrane of the mouth, and also, to a less extent, of that of the eyes and nostrils when the liver is affected ; also by shivering fits. When the larynx and bronchial tubes are principally affected, the cough is frequent and painful, and the mucous membrane of the mouth, eyes, and nostrils is red instead of yellow in colour, the breathing is commonly accelerated, and the pulse quick and feeble. The dung is voided in small quantities and dry, and the urine is high coloured.

The symptoms are general appearance of dejection, rapid breathing, discharge from the nostrils, sometimes confined only to one, and more frequently the left ; flow of tears from the eyes, and extremities cold. In this stage administer stimulants, with a mild purgative, the stimulants every three hours. Should this prove ineffectual, give one drachm of carbonate of ammonia largely diluted in water, and given every two hours until the oppression is removed. This is a good prescription for congestion of the lungs.

At the first appearance of catarrh give for food all that is most digestable, such as scalded and crushed oats, boiled carrots, &c., &c. ; give bran mash with a teaspoonful of nitre, and, immediately, a ball containing 3drs. of aloes ; and administer thrice daily 1dr. carbonate of ammonia in a pint of water until the symptoms subside.

Treatment of influenza must always be either negative or stimulating, never sedative or depressing in its effects. When it is necessary to allay irritation, small doses of opium may be given, but the majority of cases do better without any narcotic treatment. Counter-irritants are always beneficial when the larynx or bronchial membrane suffers from inflammation ; and they are also indicated when the lungs are congested, which is frequently the case in weak animals. Mustard poultices are quite as effectual as blisters, and may be safely applied to the throat, chest, or sides, if the state of the breathing renders it necessary. Internal remedies will comprise salines, with ammonia and vegetable tonics. A very good mixture for the early stage of the disease is composed of carbonate and nitrate of potash, one drachm of each, dissolved in a pint of water, to which half an ounce of aromatic spirit of ammonia may be added. When the prostration is exceedingly marked, sulphuric ether, half an ounce, may also be added to the draught, and in many instances an ounce of tincture of gentian may be advantageously substituted for the ammonia.

The horse may be tempted with any kind of food which is obtainable. A preference is generally given to succulent diet ; but

some horses will eat a little clover hay when nothing else is palatable to them ; others prefer clean straw, which is least desirable ; and some refuse all food, and have to be supported on gruel, with the addition of good ale or stout.

Good nursing is very important. The sick animal will require a roomy, well-ventilated, loose box ; water should be kept within reach. A tonic mixture composed of one drachm of dilute hydrochloric or nitric acid with an ounce of tincture of gentian in a pint of water should be given once a day. Sulphate of iron is also a very good tonic, and may be given for a fortnight or three weeks. Should it produce feverishness with a scantiness of urine, stop it at once.

Where the horse's joints and limbs are swollen, rub the joints and legs daily with a liniment composed of equal parts of olive oil and turpentine. Give a nutritious diet, together with carrots, and keep the bowels gently open. Do not bandage the legs or bathe them ; the cold has greater effect on the limbs after the removal of the bandages, and the warm water opens the pores of the skin, rendering the adjacent parts more susceptible of cold. All work should be moderate ; but, when the animal has acquired sufficient strength, work will be beneficial.

INTESTINAL CALCULUS.

Administer thrice weekly, in solution, $\frac{1}{2}$ oz. of nitre, and of carbonate of ammonia and aloes 1dr. each.

IODIDE OF IRON.

Its effects are similar to those of the sulphate of iron ; it is not generally given in ordinary cough, but in the chronic cough which arises often from weakness, it is sometimes of service. It may be given to horses in work.

IODINE OINTMENT.

Iodine, 10gr. ; iodide of potassium, from $\frac{1}{2}$ dr. to 1dr. ; lard, 1oz.

KNUCKLING OVER.

In all probability the horse has been worked at too early an age. Rest and blistering, followed by cold bandages, or turning into a strawyard or marsh for some months, will possibly restore the joints.

LAMPAS.

Lampas is a disease of the palate, which, immediately behind the

upper incisor teeth, becomes swollen and tender, and projecting down below the edges of the teeth causes pain in the attempt to bite the food. The tumefaction is sometimes considerable, and forms a mechanical obstruction.

Young animals are most subject to lampas during the change of the milk teeth between two and five years of age; but horses are very often affected. In most cases no remedies beyond a little cooling medicine, as a dose of nitre in a mash for two or three nights, with a wash of alum-water, will be necessary. If there is much tumefaction and redness a few punctures will afford relief at once, but the removal of the swollen gum could only be necessary under extraordinary circumstances, and then it should be done by a competent veterinary surgeon.

LICE IN HORSES.

Wash first with soft soap and warm water, and then with 1 part of carbolic acid to 60 parts water. Feed moderately and give gentle exercise.

LIQUOR ARSENICALIS.

The proper dose for a horse is $\frac{1}{2}$ oz. daily, if not continued longer than two months.

LOOSENESS.

Give rice water instead of ordinary water, and not more than a gallon per day of it. There are some horses so washy that nothing will have the effect of stopping the looseness. The hay and corn should be of the best quality, and the latter should be bruised.

LOTIONS.

Of all applications water is most used. It is useful for two purposes—either to lower the temperature of a portion of the body, in which case the water application must be kept constantly *cold*; or else to stimulate the part to renewed and increased action. This latter may be done by dashing cold water over the part, and then rubbing until dry, or by putting a dry bandage over the wetted part. Lotions of all kinds are most generally applied by means of bandages. They are of three kinds:—(1) Dry bandages, usually of woollen material, used when it is necessary to protect the extremities from cold or to confine the heat. (2) Wet bandages are adapted to the treatment of different forms of disease or injury. It is generally admitted that wet bandages should not be allowed to dry on the legs. One obvious reason is, that if *wet* bandages are required, they

cannot become dry without a loss of the desired action, and there is also the fact that the material contracts during the process of drying, and, if the bandage was applied with sufficient pressure at first, the amount exerted by it when dry will be injurious. And a third form of bandage is a wet roller covered with a dry one. This method of applying pressure is advisable when it is required to allay irritation at the same time that support is to be afforded to relaxed or divided structures, as in cases of contused wounds or severe sprains.

MANE, TO MAKE GROW.

Rub into the roots of the hair a mixture of equal parts of neat-foot oil and spirits of turpentine.

MANGE.

Give gentle purgatives, wash the skin with warm water and soap, and then apply mercurial ointment 2oz., camphor $1\frac{1}{2}$ dr., liquor of ammonia $1\frac{1}{2}$ oz., neat's-foot oil 4oz., well mixed together. No difficulty is experienced in curing the disease in the incipient stage.

Mange is sometimes so universally spread over the animal's body, that as fast as one part is cured another breaks out. In long-continued and neglected instances of the affection the acari are spread over the body, and are protected by the numerous hardened crusts and scabs, and in the deep furrows which are formed in various parts of the skin, and so escape the action of the remedies. Besides, the remedies are seldom, if ever, applied to every part of the skin; and generally only the diseased parts are dressed. In this way a second attack of the disease may take place in a fortnight, or less, and future partial dressings may have the same results again and again.

Internal remedies may be used in the treatment of obstinate mange in cases where the condition is in the direction of plethora or emaciation. The scabs can generally be got rid of by a good washing with soft soap and warm water, aided by a hard brush. After the washing, one of the many washes which are used for the cure of mange may be applied over the skin freely, and well rubbed in with a brush. A piece of an old spoke brush answers very well for this work. The dressing should be very carefully and completely used to every part of the skin where the disease exists.

Mange dressings generally contain mercury, arsenic, hellebore, or tobacco, or otherwise some preparation containing turpentine and

tar oil is employed. The latter remedies are more effective than the former—are, besides, non-poisonous, and very readily obtained. Mangy horses certainly ought to be removed from the stables where other animals are placed. Tar dressing is made by mixing tar oil, oil of turpentine, and any common animal oil—as train oil—together in equal portions. Washing with soft soap and warm water is necessary before each dressing, and if much scurfy matter is found on the skin the currycomb may be used.

Mercurial ointment is a very good application for mange in the early stage; but it cannot be used with safety where a considerable portion of the body requires to be dressed. For mild cases a slight friction with the ointment on those parts where an eruption appears will perhaps be sufficient; but if it is determined to use the remedy in more advanced cases, it is necessary to dilute it with oil, in the proportion of four to eight parts to one of the ointment, according to the extent of surface which is to be covered.

Infusion of tobacco with white hellebore was at one time a very favourite remedy.

Carbolic acid, and the different mixtures of which it forms the active ingredient, are excellent for the cure of those diseases which are dependent upon the presence of acari. The acid may be mixed with water or with glycerine, or, if applied to isolated spots of diseases, the undiluted acid may be used, a small quantity being brushed over the part. The general plan, however, and the one which is most effective and safe, is to first make a solution of soft soap in warm water, and then add one part of carbolic acid to thirty or forty of the soap solution according to the severity of the case. This dressing may be applied all over the animal's body after the preliminary washing, and will require to be repeated once or twice at intervals of eight or ten days. The acid is the kind which is sold retail by the manufacturers at four shillings the gallon; the black stuff which commonly does duty for carbolic acid is quite inoperative.

A peculiar form of mange is occasionally produced by the transference of the parasites which infest poultry to the skin of the horse, and in all cases where a poultry house is near a stable there is a risk of the disease being established. The affection never assumes the obstinate character of true mange, and the acari are readily destroyed by the application of the carbolic acid dressing.

The stable should be thoroughly whitewashed and fumigated with sulphur. Some practitioners dress the affected parts with equal quantities of creosote and spirits of wine and water.

MEGRIMS.

Megrims or epilepsy is the result of pressure on the brain. The early symptoms gradually present themselves. The horse goes off his feed, stands with his chin resting on the manger, and staggers slightly in his gait; these subside only to assume on a future occasion a more decided type, when the animal leans against the stall and falls if an attempt be made to move him; he sleeps or stands seemingly unconscious of surrounding objects; pulls from his rack a lock of hay, half masticates it, and drops it from his mouth; when attempting to drink he is unable to swallow, and the water is ejected from the nostrils.

The above signs of megrims are noticeable in the stable, but, if such an animal be driven in harness, then symptoms of a most aggravated type speedily occur. The muscles of the head begin to twitch, convulsions supervene, when the horse falls unconsciously forward.

Megrims is sometimes caused by congestion of the brain resulting from a plethoric state of system. This state may be produced by over-feeding and by not giving sufficient work, or it may be obtained physically, by pressure of the collar at the root of the neck. It does not confine its attacks to over-conditioned horses, but is common to lean and hard-worked ones. Where such is the case we find that it is the result of pressure on the brain, caused either by tumours or by an impervious state of the jugular vein, or some important bloodvessel. Megrims the result of these last-named causes is incurable.

Free bleeding and purging, with turpentine clysters, will be required, and will generally afford relief; if, however, the horse continues drowsy after their action, the head should be blistered, and a rowel inserted under the jaw, together with the internal use of nitre, tartar emetic, and digitalis, in doses of one ounce of the first and a drachm of the two last every four hours.

MUD FEVER.

f The worst effects always arise when the mud is left to become dry on the skin; therefore great care should be taken to wash the mud off the legs and the belly as quickly as possible. This may be done roughly by riding the horse through a pond; but it is better to have a more complete cleansing with soft soap and water, followed by the free application of a wisp of dry straw. Should there be no possibility of doing anything until the animal reaches his stable,

the first thing will be to thoroughly remove the mud by means of a brush, with warm water containing a little common soda or potash. After the surface of the skin has been properly dried, a little glycerine may be applied to those parts where signs of irritation are apparent. If inflammation increases and the horse shows signs of ill health, and indicates the uneasiness which he suffers by violent stamping and rubbing his legs together, more active treatment will be required. Cooling medicine—a drachm each of nitrate and bicarbonate of potash—should be given daily in a mash ; the irritated skin should be frequently sponged with a sedative lotion—half an ounce of tincture of aconite to two quarts of water, and the horse should be allowed a cool loose box. It is necessary to tie the animal's head up in some cases to prevent him tearing his legs, otherwise he is much better loose. The loss of hair which accompanies the severer forms of the disease is a matter of no moment beyond the temporary blemish, and after the acute symptoms have subsided the growth of hair may be promoted by the occasional use of very weak mercurial ointment ; but this must not be applied while irritation of the skin continues. x

MUSTARD EMBROCATION.

It is mixed in the same way as when used for the table with water, made about the consistence of thick cream, and rubbed on the part affected. For slight coughs, occasioned by irritation of the mucous membrane lining the windpipe, it is an excellent remedy. It acts speedily and effectually, without producing any blemish.

NASAL GLEET.

Try the effect of 1dr. of sulphate of copper, with $\frac{1}{2}$ oz. of powdered gentian, in the food every other day for a fortnight. It is very desirable that a competent veterinary surgeon should be consulted, as there is a possibility of glanders.

NAVICULAR LAMENESS.

Any sudden step, such as a “false step,” treading upon a stone whilst in a gallop, in short, any violent step on a hard substance, during which the tendon which passes over the navicular bone is injured, will cause navicular joint disease. All feet, whether ill or well-shaped, are equally liable to this disease. True navicular disease, the effect of the cause, is the presence of an ulcerated spot, either on the surface or embedded in the midst of the navicular bone.

A correspondent of the *Field* says :—“The symptoms of navicular

disease are peculiar, and in well marked cases not easily mistaken. It is commonly noticed in the early stage of the disease that a horse goes a 'little feeling,' and is inclined to tread with the toes rather than with the flat surface of the foot. In addition, the animal will often be detected in the act of 'pointing,' that is, thrusting one foreleg in advance of the other while he is standing in the stable. It must not be concluded that this habit alone is significant of navicular disease, but, taken in consideration with other signs, it possesses a certain value. The feet affected with navicular disease are never, as a rule, hot, more often they are cold. The lameness which attends it increases while the animal is at rest, and is often much relieved by exertion.

"In cases of long standing, contraction and what is termed 'wiring in' of the heels will always be noticed, because, when suffering from disease in the posterior part of the foot, a horse naturally endeavours to relieve that part from pressure; and, from whatever cause it may arise that the weight of the animal is taken off the heels, contraction is the immediate result. Of all the symptoms which belong to navicular disease, the one which is least liable to be misinterpreted is the peculiar toe action, which is best seen when the animal is first brought from the stable. Immediately that a horse affected with navicular disease is seen to be lame, the shoe should be removed and the sole of the foot cut out until it yields readily to the pressure of the thumb; the heels should be moderately lowered and the toe shortened as much as the hoof will bear; the shoe should then be 'laid off' at the heels in such a way that when firmly nailed to the crust there shall remain sufficient space between the iron and the horn to permit the passage of a flattened straw for the distance of a couple of inches from the heels forward; this arrangement will relieve the heels from undue pressure, and allow any movement, either of contraction or expansion, to continue unchecked. The withdrawal of blood from the vessels of the foot may now be effected before the shoe is fastened on, if it has previously been determined that the operation is necessary; but in many cases where the lameness is slight, the proper adaptation of the shoe, and the subsequent use of wet swabs to the feet, will restore soundness for the time being. If the operation of bleeding from the toe is performed, the horse will require a fortnight's rest at least before being put to work; and if the wound made in the foot does not heal readily, three weeks or a month may be necessary. Various expedients have been had recourse to for the purpose of keeping the hoofs in a moist state. The constant use of wet swabs will gene-

rally answer the purpose ; but placing the horse in a box or stall, some portion of the floor of which is covered with wet clay, is a plan of treatment which used to be very popular. When the lameness is severe or recurs at short intervals, some more active measures are generally adopted, and bleeding from the toe is followed by a repeated application of blisters to the coronets and across the heels ; very bad and long-standing cases are often much benefited by this treatment.

“Frog setons are occasionally very effective in the treatment of navicular lameness, but they require a rest of six weeks or two months in order to gain the full benefit from their action. The operation is performed by passing a needle armed with tape through the centre of the frog, and causing it to emerge at the upper part of the heel under the fetlock. The tape is to be knotted in the ordinary way, and smeared with a little blister or turpentine ointment. During the time it is allowed to remain in, which will be probably a fortnight or three weeks, it must be moved once every day, otherwise the opening will become blocked up, and the matter accumulate in the interior of the foot. In passing the seton needle through the frog it is necessary to exercise care in directing its course, to avoid injuring the flexor tendon ; otherwise no danger attends the operation.

“The particular method of shoeing applicable to cases of navicular disease, will require modification according to circumstances. It is desirable, if possible, to gradually lower the heels which have become contracted and upright, and to have the shoes laid off at the heels in the manner previously suggested ; but if it be found that the frogs cannot be brought near the ground without the lameness being increased, thick-heeled shoes must be employed to elevate the heels and keep the frogs from the ground.”

The division of the nerves above the fetlock joint will effect a permanent cure.

Some surgeons contend that the disease may be cured in its early stages by strong counter-irritants.

As soon as the horse is sufficiently prepared, apply the firing-iron effectually round the coronet, which is the seat of much pain in this affection, making six or seven strokes about one and a-half inches long, and continue each of these strokes down the hoof for about an inch. Apply a strong blister over the whole. When this blister has peeled off apply a second, which is usually sufficient to effect a cure in bad cases. Turn the horse out into a field or loose box, where he can exercise himself. In mild cases, the application of a

sharp liniment round the coronet, and keeping the horse at gentle work in harness if possible, will frequently effect a cure.

OVERREACH.

Overreach is an accident almost confined to hunters. Overreaching in the hunting field produces a wound on one or other of the bulbs of the heel, by tearing down the horn covering from the true skin where the hair terminates above, over the inner or outer half of the frog, according to the side on which the hind foot has struck the fore. A bruise of more or less intensity is produced with the tear, and on that depends the degree of pain caused. An overreach is always more formidable in appearance than it is in reality; it seldom need cause a hunter to lose a day's work, or, at most, to postpone his turn for more than one or two days.

Mr. Gamgee advocates the following treatment, which we have found to be thoroughly efficacious. He says: "When a horse comes into the stable with a wound from an overreach, let him be dressed all over except the foot injured; then taking a pail of water comfortably warm, put the foot into it, and continue fomenting the leg and foot until the dirt is removed. Examine the overreach, then ascertain the extent of the wound, and whether it be freed from all gravel, foreign matter, &c.; the leg and foot should be sponged and rubbed dry with cloths, and some soft tow wetted with warm water laid over the wound, and a flannel bandage, similarly moistened, is to be put round the coronet, and tied so as not to press on the wound. The next day the bandage and tow may be changed, when it will be found that the cure will be well advanced. These may be removed after forty-eight hours, and the detached soft horn will by next day be shrivelled, and of little substance. When the line of demarcation between the dead and the living textures is obvious, the former may be detached with a small knife or scissors."

The time-honoured system of curing overreach was by cleaning the wound thoroughly, applying an active astringent or caustic mixture, and strapping the surface with a plegit of tow, making all tight with a bandage.

PRICK.

When a horse becomes lame, and upon an examination of the legs no sufficient cause is discovered, the shoe should be carefully taken off and the foot well pared out. If the cause is not then visible, the cautious application of the pincers or a rapping round the hoof with a hammer, will disclose the seat of the injury, by causing the animal to wince. This ascertained, remove all pressure

from the part by paring away the sole and dressing the foot with some soothing application, such as Friar's balsam, stopping the foot lightly afterwards with some tow. The shoe must be so made as to spring off the affected part; and on no account must any nails be driven in near the wound. If the case be taken in time, these means will generally be sufficient; but, if it be neglected, the inflammation will increase, and matter form underneath the sole. If it comes to this, free exit must be provided, or the matter will find for itself the easiest escape through the soft parts above it, thereby giving rise to quittor, false quarter, &c. Having made a free exit, and well pared out the foot, the dressing should be applied according to the kind of matter in the wound, and the foot put into a warm bran-poultice, first fomenting it with hot water by placing the horse's foot in a bucket for an hour or more, giving the animal at the same time a dose of purgative medicine and perfect rest. The fomentations and poultices may be continued for a day or two.

The wounds caused by treading on foreign substances may also be treated in the same way; and great care should be taken with them, as they often give rise to lock-jaw.

As soon as the foot is found to be cool, and the action is sound, a simple dressing of tar with tow over the wound will suffice, and, as in corn, a leather sole will be of use for the first shoeing, for the purpose of protecting the parts until the horn has again become firm and able to bear contact with the ground.

PROFUSE STALING.

Give iodide of potassium 2dr. in a pint of water, and repeat the dose in two days.

PURGATIVE, A.

Mix in a mash a scruple and a half of pulverised croton seeds. A horse when undergoing the effects of purgative medicine, should be kept in the stable. To administer physic, and then turn out, is very dangerous treatment.

QUITTOR.

A quittor is a wound situated on the coronet, communicating with a sinus in the foot. It arises from injuries inflicted on the foot, which injuries are sometimes the result of a prick from a nail in shoeing, or are caused by a stub or tread. Quittor most commonly arises, however, from a corn which, from being neglected, has run into the suppurative stage. The usual seat of this disease is the inner side of the coronet of one of the hind

feet. Its first appearance is in the form of a hard prominent tumour, characterised by its heat and much tenderness on pressure. As it matures, the hair gradually drops off, leaving the affected part a bare dry spot. The treatment for quittor would of course vary in many cases : but, as a rule, let the foot be well pared out, and the wounds cleaned ; then let a bar-shoe be fitted out so that no pressure is applied to the affected parts ; then by the use of astringent or caustic agents, as the case may be, attempt to set up healthy action. If there be much inflammation a poultice may be used, or the wound may be dressed with some preparation of opium. Some have recommended arsenic, others verdigris, and others blue vitriol.

A well-known author thus writes as to the best treatment : “A quantity of caustic is introduced into the sinuses, and dead matter is subsequently sloughed out in the form of a ‘core,’ and if the case goes on favourably, healthy structure is formed in its place ; if not, a repetition of the treatment is called for. Corrosive sublimate is one of the most powerful remedies, and is used in the form of powder, which is rolled up in paper and passed into the sinuses, or mixed with an equal weight of flour and made into a paste with water, the mass being moulded into small rods of a convenient size, which, when dry, are thrust into the sinuses in the same manner as the paper tubes. Sulphate of zinc is a very good caustic, and may be either introduced into the canal in small pieces, or in powder, or injected in the form of a strong solution. Chloride of zinc (disinfecting fluid) is also frequently injected, either in its undiluted state or mixed with various proportions of water. After the caustic dressing has been applied, a poultice should be tied over the whole of the foot to alleviate the pain and inflammation which will certainly follow. In the course of a few days the slough, or ‘core,’ will probably come away in the midst of a poultice ; and if the wound should then assume a healthy character, very little beyond mild dressings, such as poultices or warm water applications will be necessary. But should the dense texture of the sinuses be again formed, a repetition of the caustic will be necessary, and it may be desirable to use stronger remedies ; the hot iron is in favour with some practitioners.”

RHEUMATISM.

Give daily in a ball $\frac{1}{2}$ dr. of iodide of iron, and work moderately.

RINGBONE.

One drachm of the biniodide of mercury ointment should be mixed with 1oz. of lard, and rubbed in daily till it produces a dis-

charge, which should be kept up with hot fomentations. Firing reduces the inflammation which is the cause of the unnatural growth of bone, and in that way acts beneficially.

Ringbone is a growth of bone from bone, situated around the coronet, mostly near the pastern joint, at other times just above it; and not unfrequently the coffin bone and pastern bone become united together by bony growth. Ringbones are the result of hereditary predisposition, structural organisation, and accident. The disease may be produced by a blow to the part, and from the efforts made to increase speed, when concussion causes injury, inflammation, and consequent exostosis to the bones of the pastern. As to treatment, remove the shoes from the horse's feet, and turn out to grass. If this, after a fair trial, fail, then the treatment for spavin and other exostoses must be resorted to, such as blistering the affected part, and keeping the animal on a low diet.

RINGWORM.

Apply, daily, over and around the ringworm an ointment consisting of one drachm of the iodide of zinc to the ounce of lard.

ROARING AND WHISTLING.

An able correspondent of the *Field* thus describes the various methods of detecting this malady: "Roaring and whistling are generally detected during a canter; very few horses manifest the defect during a walk or slow trot; and some animals, when only affected to a trifling extent, give no evidence of unsoundness during a gallop. In many cases of incipient whistling the sound is only to be distinguished at the moment the canter is commenced. After a few paces the breathing becomes perfectly natural, and continues so until the horse is pulled up for a time, and again started after a few minutes' rest; for this reason it is very important that doubtful or disputed cases should be examined after rest; and, if possible, the examiner should be upon the horse's back, in order that he may have the opportunity of listening to the breathing at the instant the animal commences to canter. Presuming that the horse under examination bears this test well, and that neither to the listener in the saddle or to anyone standing near is any unsoundness apparent, the next step will be to stop the animal suddenly in his career, and listen with the ear placed conveniently near to the openings of the nostrils. Very frequently a slight whistle will be detected in this way, when no unhealthy sound can be heard while the horse is cantering or galloping.

“Another method of detecting a roarer, in favour with many, is to strike, or feint at striking, the horse on the body. If the animal so treated, in addition to the usual signs of alarm, should give utterance to a prolonged grunt, he is immediately designated by the contemptuous epithet of a ‘bull,’ being a smooth way of indicating that he can and does ‘roar.’ One symptom which often exists in connection with roaring is cough of a peculiar kind; and among the tests of soundness is the practice of squeezing the larynx, or wind-pipe, in order to cause the animal to cough, and thus betray by the sound emitted the unsoundness which otherwise might remain latent.”

There is no cure for this malady: but by placing pads over the nostrils with straps, so as to lessen their area, a horse may be rendered capable of working with comparative ease.

Give the horse as little whole hay as possible, but feed him on ground oats, chopped hay, and a regular daily supply of carrots.

Judicious management in the way of feeding, grooming, and exercise may do much towards preserving a “roarer” in the best condition for a long time. Medicines should generally be tonic in their action. Iodide of potassium, in doses of half a drachm, with nitrate of potash one drachm, and sulphur two drachms, may be combined, and given in the food, either mash or corn, and repeated three times a week, until some improvement takes place, when the medicine should be discontinued for a time, and again employed in the same manner so long as any benefit appears to attend its use.

RUBBING MANE AND TAIL.

No. 1.—First ascertain the cause. Sometimes the tail is rubbed from the irritation of worms, at others from lice in the roots of the hair, and in others again from a heated state of the body. Wash the affected parts daily with soft soap and hot water, rub dry, and bathe with a solution of potash every other hour, and sprinkle nightly over the corn twenty drops of liquor arsenicalis. Some use a $\frac{1}{4}$ lb. mercurial ointment mixed with 1lb. of the soft soap, allowing the mixture to remain on a day or two and then washing clean with warm water; or the mercurial ointment may be used alone, rubbing a small quantity well into the roots of the hair.

No. 2.—Apply a teaspoonful of sulphuric acid to half-pint distilled water. Before applying the lotion, wash the affected parts with soft soap and hot water, and then thoroughly dry. Rub the lotion on the parts twice or thrice a day with a sponge.

No. 3.—Carbonate of soda, two teaspoonfuls; distilled water, half-

pint. Previous to the application, wash with soft soap and hot water, and dry thoroughly. The washing need only take place before the first application of the lotion, which is to be used twice or thrice a-day.

No. 4.—Apply benzoline to the parts rubbed bare: it will stay the itching, and destroy any vermin lodged about the parts. If worms are suspected, give, by means of a horn, a mixture composed of turpentine and linseed oil, of each 4oz.; liquor potassæ, 1dr.; soft water, a pint; to be well shaken together, each hornful; in a few days after a dose of aloetic medicine. If seat-worms, inject turpentine, 1oz.; linseed oil, 4oz.; laudanum, 1oz.; the yolks of a couple of eggs, all beaten up together, with a quarter of a pint of water, sufficiently hot to make the whole milk-warm. Or bruise and boil $\frac{1}{4}$ oz. of cocculus indicus in a pint of water for a few minutes; strain, and when sufficiently cool inject same as above.

No. 5.—Use strong acetic acid (wood vinegar). It is also an excellent remedy for irritation and eruptions on the skin.

No. 6.—Take new buttermilk, bottle it, tie it down tight in a soda-water bottle, and leave it in a hot place to ferment for three or four days, and then have it rubbed well into the skin of the mane and tail.

No. 7.—The habit of rubbing the tail may generally be prevented by pulling the cloth so far over the hind quarters that the tail shall be covered to half its length.

No. 8.—Turpentine well rubbed in two or three times a week is a specific. Some add to the turpentine tincture of cantharides in the proportion of three parts of the former to one of the latter; or turpentine and neatsfoot oil in equal proportions.

No. 9.—1oz. of sulphate of copper (powdered) added to 4oz. of powdered linseed, and a sufficient quantity of lard added to form a mass. Divide it into 1oz. balls, one to be given every other day.

SANDCRACK.

Sanderack is a fissure of the hoof, extending from above downwards. Both hind and fore feet are liable to these fissures, and they may occur at various parts. In the fore-feet they are generally found at the inside quarter. When found in the hind-feet, it is generally cart-horses that are effected, and the fissure occurs at the front of the foot. Sanderacks, however, may occur in other parts. The fissure sometimes extends but partially through the wall of the foot, when it will probably not occasion any lameness, and by

judicious treatment may not occasion any trouble; but when the fissure extends to the sensitive parts of the foot the horse suffers great pain; and, consequently, lameness is the result. In all cases, if possible, give the horse rest. Where the case is one of a simple fissure in the hoof, let the sole of the foot be well pared out, and the crust lowered as much as possible; then let the veterinary surgeon draw out a hot iron longitudinally across at several parts, not too deep: this stimulates the horn. After this he should take some sticky substance—cobblers' wax will do; melt some and draw it over the crack, and then bind the foot all round with a broad piece of tape, tying it as tight as possible, and cover the tape over with wax, so as to prevent its getting out of place. This should be repeated about every three weeks. If the horse is used, it should be very gently; but, if it can be rested, let the coronet be blistered. At the same time, keep the foot well stopped with some hoof ointment, so as to render it as supple as possible; and, after recovery, there must be very careful shoeing and careful use of the horse, as sandcrack is very liable to recur. When the foot is inflamed, it is probable that some dirt or irritating substance is in the wound; then, before applying the tape, put on a poultice to cleanse the wound, after which the treatment above mentioned may be recurred to. In case of fungus, destroy it with some caustic application before proceeding to any further treatment. A bad sandcrack will often take many months to grow out.

The following are some recipes for the treatment of this disease recommended by several correspondents:

No. 1.—Common tar, honey, elder ointment (equal portions), to be rubbed in between the hair and the hoof twice a week, or oftener, if necessary.

No. 2.—Have the animal shod with thick felt placed between the shoe and hoof, and keep the hoof itself well oiled. The felt should be well steeped in oil.

No. 3.—Have a bar-shoe put on, and fire across the crack to the quick, close to the coronet, where the crack does not extend to the top of the hoof; fire through the hoof at the top of the crack at the same time; apply hard tallow and oil mixed in equal quantities every night. The oil penetrates, and promotes the growth of the hoof, and the tallow lies on the surface and excludes the wet; it should be applied warm.

No. 4.—The foot should be well rasped out, especially over and upon the crack itself. A bar-shoe, chambered so as not to press upon the hoof immediately under the crack, should be placed on

the affected foot or feet; and a blister should be applied around the coronet and pasterns.

No. 5.—A tranverse incision should be made at the upper extremity of the crack, and one or two nails driven across and embracing about one-third of an inch of horn on either side of the fissure, clenching the nails as in shoeing, will be found to promote a cure; the animal in the meantime will perform his ordinary work. In the future shoeings prevent the rasp from removing the covering nature has provided as a protection to the fibres of the horn from atmospheric influence.

No. 6.—Another plan of treating sandcrack consists in cutting off the communication between the upper portion of the fissure near the coronary surface, and the lower portion, which extends to the edge of the wall; this is done by inclosing about an inch of the upper part of the crack in a small square, the boundary lines of which are cut deeply into the horn by means of a knife or firing iron. The virtual effect is to prevent the upper part of the fissure, which is thus isolated, from being affected by any movement which may take place in the lower part. The inclosed space gradually approaches the ground surface by consequence of the downward growth of horn, and is ultimately cut out completely in the process of shoeing, and the sound new structure remains.

SCOURING.

Scouring is not uncommon among excitable animals, and is not easily remedied. Probably the digestive functions are disordered. Try the following ball every second day: Extract of gentian, 2dr.; extract of taraxacum, 4dr.; bicarbonate of potash, 1dr. Modify the diet by scalding the oats, and mixing a little bran and linseed tea with them.

SEEDY TOE.

This affection consists in a hollow condition of the hoof in the front of the foot, and is detected by the sound which is elicited on tapping the part with a hammer. On removing the shoe an opening or fissure will be apparent; and if the dirt is picked out it will probably be found to extend half way up towards the coronet.

No. 1.—There are two ways of curing this disease. By removing the whole of the separated crust and false secretion, and applying a thin flat iron protector with a hook-and-eye attachment to the shoe, secured at the opposite end by a strap round the hoof; by this means a frequent and thorough dressing can always be easily secured.

Apply tow impregnated with the following every fourth day: Fish oil 1lb., oil of tar 3oz., sugar of lead $\frac{1}{2}$ oz. A healthy secretion will be established in a fortnight, provided the whole of the diseased parts have been exposed. A frequent stimulant to the coronet would be an advantage. Or by removing the false secretion only, and pouring the above mixture warm into the cavity, afterwards inserting the tow. Apply a shoe with one or two clips to grip firmly the detached crust.

No. 2.—The shoe must be taken off in order to ascertain what progress the disease has made, as well as to admit of the removal of such parts of the hoof as it shall appear requisite to cut away, viz., the undermined horn, as no reunion can take place between the outer and inner crust. Fill up the hollow space thus made with a plug of tar and tow, and avoid driving the nails near the affected parts. The shoe best adapted for a seedy toe is a bar-shoe. If rest can be given, blister round the coronet in addition to the above treatment.

No. 3.—Carefully clean out every particle of sand and dirt from the cavity between the hoof and sensible part of the foot, wash well out with water by means of a goose-quill feather, then fill up the cavity carefully with tow, and if possible avoid putting a nail through the part of the hoof affected. Repeat this process every time the shoe is removed, and in time the hoof will unite with the foot. Keeping the feet moist will hasten the process by accelerating the growth of the hoof; and apply a mixture of one part of tar, one part of spirit of turpentine, and four parts of olive oil, by means of a small brush to the coronet immediately above the hoof, for the purpose of increasing its growth. All the defective horn should be first removed from the “seedy toe.”

SIDE-BONE.

Side-bone is the ossification of the lateral cartilages of the foot. The long-continued application of the biniodide of mercury is the most likely means to get rid of the bony growth, by absorption. Mix two drachms with an ounce of lard, and rub in a little every day over the enlargement. Firing is the most effective remedy, but in cases where the lameness is trifling, try the effects of cold lotions, followed by friction with stimulating liniments or blisters of biniodide of mercury ointment, before the more severe method is adopted. In very old cases, where a horse is rendered quite useless in consequence of the excessive lameness, benefit has been obtained from a division of the nerves above the fetlock joint.

SKIN DISEASES, SURFEIT, ETC.

An able correspondent of the *Field* thus writes: "Two distinct forms of surfeit, attended with intense itching, occur very frequently among working horses, and are sometimes very difficult to cure. One form of the disease is characterised by redness and itching, without positive eruption; and the other by itching, with the breaking out of small pimples, which, however, are not apparent unless the hair is divided carefully for the purpose of searching for them. Both varieties of the derangement appear to depend upon the same general causes—digestive disorder, arising from the consumption of coarse or unaccustomed food, want of exercise, imperfect grooming of the skin, and exposure to cold and wet weather. Certain periods of the year are fruitful in the production of these cases, and both spring and autumn are celebrated on this account.

"Among the most successful of external remedies stands sulphur in the form of ointment or soap.

"Treatment of surfeit accompanied with irritation of the skin, indicated by itching, should always in the acute stage be of a bland character. A lotion composed of carbonate of potash, one part to fifty parts of water, will be found very useful; or, instead, one pint of vinegar to four of water will be equally beneficial. The lotion should be applied with a soft sponge, and repeated frequently until the irritation subsides. Internal remedies may consist of alkalies and saline laxatives; bicarbonate of potash, with sulphate of magnesia in alternation, may be administered in the food or water, and the diet regulated by the animal's condition. Plethoric subjects are often affected, and in their case exercise and low diet are necessary; but the treatment of the disease in emaciated animals must be associated with a liberal *régime*. When the itching is relieved by the use of the lotions prescribed, the integument should be thoroughly washed with warm water and soap, and, if any bare patches are observed, the use of a little mercurial ointment will assist in restoring the hair.

"Surfeit of various kinds may be considered as the result of internal disease. In its most common form of blotches, it depends equally upon irritation of mucous membranes and obstruction of the excretory functions of the skin. In hot weather, perfectly healthy horses are frequently attacked, and at all seasons animals affected with catarrh or influenza are often the subjects of the eruption. Sometimes the 'breaking out' occurs suddenly, and immediately

on the horse being removed from harness he becomes covered with 'lumps,' varying in size from a shilling to a small plate.

"The severity of the disease is not in proportion to the number and size of the patches; in many cases the disappearance of an extensive eruption is as rapid as its outbreak, while the apparently milder form of the attack, indicated by the presence of numerous small lumps, commonly resists treatment for a long time, and in some instances becomes chronic, assuming the character of "ring-worm." Sometimes a minute opening appears in the centre of the denuded spots, and an acrid discharge issues, adding to the unsightly appearance by adhering to the surrounding hair, and ultimately causing it to fall off. Treatment of this form of surfeit must be regulated by the knowledge of the complications of the disease with others of previous existence. When the eruption occurs during the progress of influenza or catarrh, it is seldom necessary to modify the treatment, excepting in so far as attention to the temperature of the stable and the arrangement of the clothing are concerned; but the affection in its uncomplicated form requires to be dealt with by active remedies, to prevent the subsidence into the chronic stage, which is difficult of cure.

"As soon as the attack is observed—often immediately after the horse is put into his stable on returning from a journey in summer, or even before the preliminaries to his entrance are completed—a dose of some diaphoretic medicine, aided by clothing, will frequently effect an immediate cure. A very favourite nostrum for the treatment of these sudden eruptions is compounded of aloes, tartarised antimony and nitre, about two drachms of each, made into a ball, and administered as soon as the blotches are perceived. If a repetition of the medicine becomes necessary, it is usually modified by omitting the aloes, or diminishing the quantity, in order to avoid purgation, which would interfere with the horse's work, although it would not be detrimental in any other way. Bleeding was also a remedy in common use at one time; and generally successful. Warm clothing is necessary, and for a few days it is desirable not to expose the horse to cold or wet. Should the eruption become chronic, and the hair fall off in circular patches, the means found effectual in the acute stage are no longer of any use. The compounds of iodine, employed both externally and internally, have proved successful in most chronic cases, but only after considerable perseverance. The ointment of the iodide of sulphur is a convenient preparation for application to the denuded places, and at the same time half a drachm of iodide of potassium may be adminis-

tered daily in the horse's food. No more powerful tonic remedies will be necessary, unless the horse is in bad condition, or the appetite fails, when a little gentian and ginger may be conjoined."

The following are some recipes recommended by various authorities on skin eruption:—

No. 1.—Administer 8 drops of liquor arsenicalis twice daily in a bran mash, for about five weeks or a month.

No. 2.—Liq. pot. iodide comp., 2oz.; tinc. camphoræ, 3oz.; acid. nit. mur. dil. 3oz. Give him 5dr. twice a day in his water, and continue for eleven days. Let him have the usual quantity of oats, a bran mash twice a week, and some linseed tea and a few carrots with his mid-day feed. He will require good grooming and moderate work or exercise.

No. 3.—One ounce of sulphate of copper (powdered) added to 4oz. of powdered linseed, and a sufficient quantity of lard added to form a mass, and divide it into 1oz. balls, one to be given every other day; five or six will cure.

No. 4.—Sponge the quarters with salt and water in the morning, and again at noon if necessary.

No. 5.—Give daily 20 drops of Fowler's solution of arsenic, feed upon carrots, and allow only one feed of corn per diem; continue the above treatment for five or six weeks.

Wash the skin twice weekly with soft soap and warm water, and give daily $\frac{1}{2}$ oz. of liquor arsenicalis, and feed highly.

Wash the affected parts with a solution of carbonate of soda and water, and administer daily $\frac{1}{2}$ oz. of liquor arsenicalis.

SORE BACKS.

Wash the affected part in the first instance with lukewarm water and a little common soap, and, when dry, apply sulphate of zinc and alum in solution (equal parts of zinc and alum). say a large tablespoonful of the mixture to a wine-bottle of water; when this is dissolved apply with a sponge, morning and evening, to the tender part, and when dry lay on a dry chamois-leather to prevent the clothes irritating it. The soap and water is to be used only once in the first instance. Also obtain a very nice piece of sheepskin, sufficient to place the saddle upon, with the woolly side to the horse's back, and ride him in it. If the skin is broken and there is a sore, and the wound healthy, apply a little Friar's balsam mixed with pulverised gum arabic, and proceed as above.

Again: Sulphate of zinc. $\frac{1}{2}$ oz.: sugar of lead, 1oz.; salt, 3oz; vinegar, 1 pint; water, 1 pint. Apply the lotion with a piece of

sponge or soft rag the day before hunting, or oftener if necessary ; keep it closely corked when not in use.

As a cure a strong solution of salt and alum and water, or salt and water, is generally used in South Africa ; and fresh cowdung applied as a plaster is used with great success by natives and others.

For ulcerations caused by saddle galls, wash the wound with hot water, and apply a solution of caustic, made with 5grs. to 1oz. distilled water, with a camel hair brush, and dress with an ointment composed of 10grs. red precipitate to 1oz. yellow basilicon, and $\frac{1}{2}$ dr. of glycerine, all mixed together. Apply this for a few days till nearly healed, then an ointment made with 10gr. red precipitate to 1oz. lard.

Prevention is at all times better than cure : below we give the means of doing this as followed by the experienced in various parts of the world. If in England get a "mumnah." They are sold by all London saddlers, as nothing beats them. They are placed under the saddle, and, however badly it may be stuffed, or thin the animal may be, the back will never become sore from rubbing or pinching. When taken off, the mumnah should be allowed to dry in the sun, and then, should any grease or dirt have formed on it, beat it gently with a stick. The mumnah is made of compressed hair ; it is used in our cavalry now, and has been found on service to be of the greatest benefit. A good thing to do to a horse's back, when first starting on a march, is to bathe the loins and withers with a solution of salt and water, as it has the effect of hardening the skin. Should a mumnah not be obtainable a piece of common blanket, folded four times and frequently washed, is good. A saddle should be so stuffed that a riding whip can be passed underneath between the back bone and saddle. Felt has been recommended thus used : Get some felt at least a quarter of an inch thick ; cut it into six strips the length of the inside of the saddle from the cantle to the pommel, two strips of 2in. wide, two of about 3in., and two wide enough to go from the outside edge of the cantle stuffing to near the centre or dip. Sew the pieces of 2in. exactly in the middle on the stuffing, from pommel to cantle, one on each side ; the pieces of 3in. sew over those of 2in., and the other two pieces over one and two ; this will raise the saddle clear of a horse's withers and back bone, and will also preserve the stuffing of a saddle for a long time, and can be easily renewed by fresh pieces when it is observed that the saddle is getting too near the horse's back.

As a prevention of sore back nothing beats a good deep gullet to the saddle, so that all pressure is taken off the spine of the horse, and when the saddle is on, you ought, when standing at the horse's tail, to be able to see along his back between the saddle and the skin. This, by allowing a draught of air when riding, keeps the back cool. All you have to do is to pull out a little of the stuffing of the saddle till you can see along it; the roughest stitching will do to sew it up, as it will not then come in contact with the skin of the horse, and could not rub him. Loosing the girths and lifting the cantle after, and when practicable during, a warm ride, is another good preventive; but of course care should be taken to get the saddle comfortably home again before girthing up.

A very necessary precaution, and one often neglected, is never to take the saddle entirely off until the horse is cool; the girths should be slackened only. When taken off, bathe the back with two parts salt and one of alum and cold water; if salt and alum be not forthcoming, use spring water, and dry afterwards with a cloth. Use a piece of sackcloth as a saddle cloth. If an English saddle be used, this is sufficient; if not, and a blanket is required, it must be used in addition; but the sackcloth should always be next the skin, as woollen heats and irritates in hot weather, which is the invariable cause of blisters terminating in a sore. If the horse's back is in good firm condition, salt, &c., must not be used too frequently; but cold water is always good. The saddle girths must be always kept tight while mounted.

The Australians stuff their saddles in such a manner as to avoid as far as possible sore backs. Proceed thus:—First remove the nails generally found in the middle of the pad behind, and be careful that they come clean out. They are useless, and the constant cause of sore backs. Take the pad out of the saddle, and remove all the flock that they are generally stuffed with, and throw it away. Sew the flannel lining to the back of the pad two, three, or four inches wide, as may be required for the horse you want the saddle for, from the pommel to the cantle on each side, so as to leave a space all along the backbone empty, and free of stuffing of any kind. Fill up the pad with the best curled horsehair, not very full, and put the pad on the saddle again; then, with a smooth flat piece of stick and a packing needle, work the stuffing full and tight in front to take the hollow at the back of the shoulder; and when you come to the centre stuff rather lighter, but under the seat very full, particularly outside. When done, sew up the holes you will have to cut in the serge lining about the middle to put the hair in, and sew the pad to

the tree, which is done with a long, very strong greased wax-end, as if you were lacing it, and pull it tight afterwards. A horse in very low condition will require the saddle to be perhaps 4in. thick at the outside, measuring over all.

The following are some applications recommended for the cure of sore backs :—

No. 1.—Daub the parts daily with a lotion consisting of 3oz. of Goulard's extract, and $\frac{1}{2}$ oz. of tincture of opium, in $\frac{1}{2}$ pint of distilled water.

No. 2.—One pound and a half of green vitriol (not blue), 1lb. of alum, 2oz. of verdigris, 1oz. sal ammoniac; these to be well pounded, and put into a glazed earthen pipkin that will hold a quart or three pints; put upon a moderate fire, which may be increased until the drugs boil up two or three times; then take them from the fire, and set them to cool six or seven hours. Break the pipkin, and take out the stone; it must be stirred with a piece of wooden lath all the time it is on the fire. Pound a piece of the stone, about the size of a walnut, and melt it in a quart of rain water or pond water; shake the bottle well when used, pour some into a cup, soak the linen well in it, apply the linen in eight or ten folds; be careful to keep it constantly wet.

No. 3.—Add as much alum to whiskey as the latter will dissolve, and with this bathe the parts affected.

No. 4.—Apply a paste made of fullers' earth mixed with water, until the irritation subsides. Then use daily a weak ointment of biniodide of mercury, one part of ordinary ointment to eight of lard. The saddle must not be put on until the swelling has quite disappeared.

No. 5.—The best treatment is rest, until nature has effected a cure: if this method is inconvenient, have the stuffing taken out of the saddle over the seat of injury, in such manner as to prevent any material coming in contact with it, and dress it daily with a solution of Goulard's extract and water.

No. 6.—A lotion made of alum 1oz. and sulphate of copper $\frac{1}{2}$ oz., dissolved in half a gallon of water, is very useful. It should be applied frequently with a sponge.

A recurrence of the accident may generally be prevented by re-arranging the stuffing, and further by sponging the back, every time the saddle is removed, with a lotion composed of one part of Sir W. Burnett's disinfecting fluid to fifty of water, or half an ounce of alum or sulphate of zinc to a quart of water.

SOUNDNESS, EXAMINATION OF A HORSE FOR.

If the horse has been brought but a short distance, and slowly, the examination may be proceeded with at once, not otherwise; but take him to a window or shed, that the eyes may be thoroughly inspected. Take your position opposite the eye, so as to look directly through the pupillary opening. In this way may be seen the muscular movement of the iris, should there be proper and sufficient light. Next take a step towards the shoulder, and look *across* the cornea. This must be done on both sides—turning up the lid, however, may be resorted to when considered necessary. Next proceed to the mouth, to ascertain the age; to see if the *incisors* are broken or worn. Searching from the knee downwards will require much discrimination. In the first place, we must notice if the front of the knee is free from blemish—that the integument moves freely over the point *when a blemish does exist*; look well for morbid growth of bone upon the large and small metacarpals: then turn round and examine the back part of the limb, from the elbow to the foot, in order to find marks of speedy cut, ruptured tendons, interference from shoeing, enlarged fetlock, &c. Now raise the foot, and examine it. If any difficulty is found in placing the foot and elbow together, no doubt will exist that some organic change has taken place, either from injury *above* the knee, the knee itself, the fetlock-joint, or the foot. You cannot attach too much importance to this portion of the examination; and this having been accomplished, return to the withers. The hand is passed along the course of the spinal column, and the centre of the loins pressed, which will give an idea of the state of parts underneath; looking under the abdomen in search of hernia.

Proceed then to the hock-joint, down to the foot, looking first for capped hock and curb, then in search for bursal and other enlargements about the inside and front of this joint. Now take a general survey of the animal, to ascertain his colour, particular marks, height, and mark well if the feet are all right—if he stands in good position, &c. The horse is now slowly trotted upon stones and otherwise, to see if his action is even—that is to say, if he is *free from lameness*. If this is satisfactory, a saddle is placed upon his back. If he happens to be untrained, then it is necessary to put a cavesson upon him with a long rope attached; and either get a fast runner or two to run him a distance, or ring him, which is the better plan, if there is room enough, and the ground suitable. The horse is made to gallop sufficiently to test his

wind; and should the examiner be at all doubtful as to his respiratory organs, it will be necessary to take more time, in order to ascertain the true state of his lungs. Some horses are very excitable; the pulse does not become tranquil for some time after the gallop; nor does the respiration become quiet.

SPAVIN.

Blood and bog spavin are both puffy swellings, appearing on the inner and fore part of the hock; the former, being of rare occurrence, is due to the enlargement of a vein; the latter to the distension of a synovial capsule. Bone or true spavin is a growth of bone from bone, or exostosis, on the inside; whereas a curb in a chronic state is an exostosis on the outer and posterior part of the hock. No treatment removes the exostosis, although it may modify the lameness.

Spavin is brought on by sprain, which centres in the hock joint, between the two plate bones. All remedial means can only modify the extent of the malady. Firing has been resorted to in many cases with success. Blistering is liked by most horsemen as a remedy for spavin. When a blister is applied the hair over the seat of the disease should be clipped closely off, the denuded part bathed well with hot water, after which it must be wiped dry and rubbed until the friction used has drawn the blood to the surface. The blister, consisting of the biniodide of mercury or cantharides, is now to be rubbed over the skin on the inside of the hock. The application of a blister only once is sufficient in most cases to alleviate spavin; three or four blisterings, at intervals of a month, being generally required to effect real good. The introduction of a seton over the seat of spavin is good treatment: First. The skin, about an inch and a half above the spavin, should be grasped between the finger and thumb, and cut through with a pair of scissors made for this purpose. Secondly. The seton-needle, with a piece of tape attached to it, should be inserted into the cut surface, and passed over the spavin to about an inch below it; and at the place where the needle points an incision must be made through the skin; the tape is now brought over the spavin, and knotted at each end. Let it remain in four or five weeks, and afterwards blister twice at an interval of three weeks with biniodide of mercury ointment; during this period, administer every fortnight a ball containing two drachms of aloes, and feed on cooling diet. It is the practice of some to make an incision on the inside of the hock below the spavin, and insert into the aperture thus made a plug of tow satu-

rated with turpentine or some liquid caustic. The division of the nerve, situated midway between the leg-bone and point of the hock, of course removes all sensation below the part operated upon, and consequently, as far as external observation goes, cures spavin; but the vital action still remains intact, and any injury may occur to the foot of this neurotomed leg without the subject of it manifesting its existence, and yet all the baneful workings of inflammation may be set up, and in a short time the hoof horn will slough off.

Persistent pressure has been recommended by some authorities for bog spavin. During the time the animal is at work no such treatment can be adopted. If the animal can be turned up for two or three months, apply pressure to the hock, by means of a truss or bandage so constructed as to exactly impinge upon the bog spavin. To all enlargements of this kind persistent pressure for two or three months is the only treatment that ever entirely removes them.

SPLENIC APOPLEXY.

The symptoms are a rapid pulse, prominent eyeball, mucous membranes blood-shot, urine and fæces high-coloured and often tinged with blood: blood flows from the mouth and nostrils. It is well, on the immediate appearance of symptoms, if the mucous membranes are yellow, to bleed, and to supply the animals so affected with water slightly saturated with sulphuric acid, or better, with sulphate of soda; this water so treated should be given daily for a few weeks, and a modification should be made in the quantity and quality of the food. The malady is most fatal, generally causing death in a few hours.

SPLINTS.

Splints or bony growths appearing on the back and inner side of the fore legs, are common to horses between the age of four and five years. A splint is usually found on the inside of the leg, nearer the knee than the fetlock. Bony tumours appear occasionally on other parts of the cannon, arising from blows or other external injuries, and are also called splints. A splint rarely causes lameness, or decreases the value of the animal so affected.

Use 1dr. of iodine in 2oz. of spirits of wine, and apply with a stiff brush. This does not blister, but is a powerful absorbent, and can be replaced as required.

There are several modes of removing splints, the choice greatly

depending upon their situation. If quite clear of the suspensory ligament, rub in the biniodide of mercury ointment every night till the swelling of the skin is considerable, and then desist for a few days, using wet bandages in the interval. If, however, they are near the ligament, greater caution is required if the horse is to be worked, as the application of any stimulant is very apt to create inflammation, and consequent lameness.

When the splint is very bad rub in the above ointment (1dr. to 1oz. lard) every night till there is considerable discharge; then stop it and foment with hot water till the swelling caused by it has entirely abated, when re-apply the ointment, and proceed as before, continuing this plan till the splint has disappeared.

Again: Hog's lard 1oz., deuto-ioduret of mercury $1\frac{1}{2}$ dr. or 2dr. The ointment may be made of different strengths depending upon the nature of the case for which it is applied. The above is the usual strength. The powder should be rubbed down on a plate with half an ounce of mutton fat or hog's lard; it will then be ready for use. It is not always necessary to cut or shave away the hair from the part to which it has to be applied, unless the hair is very long. It is one of the properties of this unguent to cause a rapid growth of hair. About two drachms of the ointment will suffice for a space of three inches square, and it does not require so much friction in its application as a blister does. When the ointment is applied the animal's head should be tied up secure for one whole day, after which he may be turned loose in the field. After an interval of seven days the application can be renewed, and continued until the splint is removed. This ointment is useful in cases of swollen hocks, splints, curbs, enlarged bursas, and broken knees after the wound is healed, spavins, &c. Anyone can apply it without calling in a veterinary surgeon.

Blistering, repeatedly applied, is recommended by some, and often succeeds in reducing splints, but the operation of periosteotomy is better. An incision through the skin above and below the splint is made, and the skin raised from the splint by means of a seton-needle. An appropriate shaped knife is now passed under the skin, and the splint is cut through, after which a dressed seton is introduced.

We give the following very ancient method of producing a blister as a curiosity: Cut a sheep's kidney in two (as if it were to be broiled for your breakfast); score one half of it with a knife, and sprinkle it well with powdered bluestone (it may be scraped with a knife); clip or shave the part, and apply the kidney, binding

it on with a bandage, and leaving it to rot off, which it will do in two or three days, leaving a very complete blister.

Again, remove the shoes from the feet; apply bandages saturated with evaporating lotions around the limbs, in order to reduce inflammation. After a week or ten days apply a blistering ointment (biniodide of mercury), or insert a seton over the splint.

SPRAINS.

Any tendinous or ligamentous structure in the animal body may be overstrained, but the fibrous tissues connected with the bones and muscles of the extremities are the most frequent seats of the injury. The flexor tendons running down the back of the leg below the knee are commonly so affected. The long ligament extending from below the knee to the upper part of the fetlock (suspensory ligament) is also often sprained during a run, and the tendons and ligaments at the back of the hock suffer in the same way. The enlargement which results from sprain in this region is termed a curb.

Sprain may also affect the ligaments of the back and loins, causing a weakness in the part, which is particularly apparent when the animal is being mounted, or is compelled to back. Sometimes the horse, when compelled to move over in his stall, lifts the tail with a peculiar quivering motion, and is hence called a "shivering." The term "chinked back" is also used to designate this form of injury.

The general treatment of sprain should be directed to the prevention or removal of inflammation in the first instance, and the restoration of the lost property of tension in the next place.

If in the fetlock joint remove the shoe from the affected foot, and place around the joint a light linen bandage, which must be kept continually moistened with a solution composed of a wineglass of tincture of arnica to half a pint of water. The above, with perfect rest, will soon effect a cure.

If in the shoulder and the strain is severe it will probably take several weeks, or even months, before the effects entirely disappear. Bathe the shoulder and leg night and morning with strong salt and water, at a temperature of 100°.

Should there be an enlargement resulting from a sprained tendon, and it is hard and tender, firing will be the best treatment after the inflammation is reduced. Repeated blistering with biniodide of mercury ointment may be substituted if firing is objected to; in any case the animal must be kept at rest.

STAGGERS.

Staggers in horses is caused by pressure on the brain arising from disease of some internal organ, and is thus different to megrims, which is caused by direct action on the brain. Staggers is more easily prevented than cured, and, when fully developed, generally proves fatal. Both plethora and anæmia injuriously affect the digestive organs, and tend to derange the nervous system. Indigestion may be produced by any food that is imperfectly masticated, and which is incapable of being digested, such as rye-grass hay. Horses taken up from scanty pastures and placed upon high feeding are commonly the subjects of the malady, and for this reason it is always necessary to introduce all creatures from one course of feeding to another gradually. If it is clear, however, that over distension of the stomach is the cause of the disease, and the brain only acted upon by sympathy, bleeding will avail nothing, and strong local stimulants or stomachics afford the only chance. Staggers is usually ushered in with shivering fits, associated with extreme dulness, standing with the head in a corner, falling asleep in the act of eating, and for this reason called "sleepy staggers;" the pulse is greatly accelerated, and perspiration escapes from every pore; the febrile symptoms increase, the animal commences to be restless, to paw the ground, to rear and plunge, and otherwise give evidence of the convulsive stage. For three or four days the sleepy and convulsive stages alternate; and if recovery is likely, the functions of the body are now better performed, assuring us that the secretions are reassuming a healthy state. With this change is associated a subsidency of the symptoms generally, and of the convulsive attacks in particular.

Treatment, of course, must be regulated by the cause—that is, if the disease has arisen from indigestion, then purgatives, such as aloes (5 drachms) must be administered; and in all cases very little food must be given, and that only of a very digestible nature, such as bran mashes, boiled oats, &c. Sometimes staggers occur as the result of some urinary complaint, when this specific disease must be treated, and upon its cure the indirect attack of staggers will subside. Staggers more commonly is produced by violent constipation in association with general functional derangement. In this case, and when the convulsions are very violent, and if the patient be plethoric (full habit of body), blood-letting may be resorted to with great benefit, to be followed by a strong purgative, by the application continually of cold water to the head and nape of the

neck; if after twelve hours the purgative has not acted, the dose, with calomel added to it, may be repeated; blankets saturated with warm water can be applied to the abdomen, which will in many instances accelerate the action of the medicine. But should your patient be lean, then the loss of blood would be productive of great mischief, as the disease has resulted from anaemia (want of blood), which has depressed the nervous system, and in so doing has injuriously affected the great nerve of digestion, and thence the brain; in this case mild purgatives must be given, repeated if the bowels do not respond to it, and food, as above directed, allowed.

If recovery be obtained in either case, great weakness will remain, and sometimes even convulsions; these must be treated with a nutritive diet, and vegetable and mineral tonics; in administering these care should be taken to do sufficient but not too much.

One of these drenches will arouse the dormant powers of the stomach, and enable it to resist the decomposition going on within it as well as to expel its contents: Tincture of ginger, compound spirits of ammonia, tincture of lavender, and sulphuric ether, of each 1dr.; camphor mixed and warm ale, of each 4oz., mix; or Barbadoes aloes 3dr. tincture of capsicum 2dr., gin 4oz., warm water 4oz., mix. Cold water applied to the head by means of a sponge, well saturated with cold water and kept over the poll by a leather cap, is also very beneficial.

Vertigo does occasionally arise from derangement of liver, therefore give the horse 10gr. of calomel, 1dr. of gentian, and $\frac{1}{2}$ oz. of extract of taraxacum, in a ball twice a week. Meanwhile, attend to his diet and keep him in first-rate condition; avoid giving food or water for two hours before riding him.

No attempt to restrain the movements by force should be made other than such as are absolutely needed to prevent the horse doing himself injury by his ineffectual efforts to rise. Some straw should be quickly procured and placed under the body. The head should be slightly elevated, and cold water gently thrown upon it from time to time. The nostrils and mouth also should be sponged with cold water. The extremities and body should be well rubbed with the ordinary horse brush. A free access of air should be allowed, and, consequently, all lookers-on kept at a distance. If the horse has fallen in harness, the throat-band of the bridle should be loosed, and especial attention given to either remove the collar or draw it forwards, so that it does not press on the windpipe and chief blood-vessels of the neck, and thus impede the return of blood from the head. As soon as the animal is capable of rising he should be

assisted in so doing, and carefully walked into the nearest and most convenient stable, or rather airy loose box ; and, notwithstanding he may appear to have quickly recovered from the fit, he ought not to be again put to work until he has been seen by a veterinary surgeon.

STRANGLES.

This disease generally commences in a cold, and, in fact, is brought on by the same causes which would produce catarrh or influenza in an animal of more advanced age. The horse becomes dull, and looks unhealthy; his coat stands, he loses his appetite, and in some cases there is occasional cough; after a time a tumour is felt under the jaw, and sometimes more than one is present. There may be also inflammation of the membrane of the nose, with a discharge from the nostril. The tumour which is felt under the jaw is at first knotty and hard; it gradually spreads between the two branches of the lower jaw, and the whole of that part becomes one mass of swelling; during this process the neighbouring glands will have taken on this inflammation and have become enlarged. In bad cases the whole head becomes one mass of tumefaction.

SULPHATE OF MAGNESIA.

The dose is four ounces once a day until a laxative effect is produced.

SWELLED LEGS.

The cause of swelled legs varies greatly, and so does the treatment. The swelling may be from mere weakness, when a tonic, such as iron, will be of service; or from defective action of the kidneys, when a diuretic will be required; or from want of condition, which time alone will remove.

Where "swelled legs" arise from the presence of fluid, the system of the animal should be kept up. The presence of fluid may be determined by the appearance of the parts after pressure. If you press the thumb on the swollen skin a depression will be distinctly marked for a short time. When this œdematous swelling shows itself, the only effectual remedy is a general attention to the health of the animal. Iron mixed with mild diuretics should be given, to which may be added a little ginger or allspice. For food give good hay mixed with one quarter straw, and good old oats, varied occasionally with green food, roots, and a little bran. The exercise should be regular, and bandages should be applied after exercise, when the extremities should also be well rubbed. Gradually increase the exercise as the horse gets better. Give occasionally a mild

aperient medicine, and once or twice a week two drachms of powdered nitre in a bran mash. If there is no heat or pain in the diseased parts, frequently foment and bandage; but if it be feverish and painful, give warm fomentations followed by sedative lotions.

The following is an application recommended by a good authority : Administer a purgative ball and feed nightly on bran mash and carrots, and apply to the legs, twice or thrice a week, a liniment consisting of equal parts of turpentine and olive oil.

In mild cases, every morning for three or four hours apply around your horse's legs linen bandages, to be kept continually wet with a solution of nitrate of potash in cold water; and administer nightly in a feed of corn $\frac{1}{2}$ dr. of the potassio-tartrate of antimony.

In the case of hunters whose legs swell after hunting, immediately after work bathe the legs with salt and tepid water, and well hand-rub them dry. On the days that your hunters rest apply around their legs linen bandages well saturated with a solution of arnica and water : a wine-glass of the former to half-a-pint of the latter.

Some authorities, after the hand-rubbing, leave the legs bandaged with flannel for the night. Should the lower extremities be found indurated in the morning, give half an hour's exercise in hand, subsequently applying linen bandages through the day saturated with the following : Water one quart, sulphate of zinc 4 dr., acetate of lead 4 dr.; shake the lotion well before using it. After horses have been lying at grass, their legs swell after exercise. In that case give a mash, with 1 oz. of nitre in it, twice a week. Take care and keep the bowels from becoming confined, and if at all that way inclined give a gentle dose of physic occasionally. Take plenty of time before putting him to *work*; but always let him have two or three hours' walking exercise daily. A flannel bandage should be put on after he comes in, and kept on till "bedding up time."

The following has been recommended : Aloes, 5 dr.; bi-carbonate of potassæ, 2 dr.; extract of hyocyannes, 1 dr.; tartar emetic, $\frac{1}{2}$ dr.; soap enough to form a ball. Then apply the following lotion three times a day : Acetate of lead, $1\frac{1}{2}$ oz.; tincture of arnica, 2 oz.; liquor of acetate of ammonia, 2 oz.; water, one quart; diluted sulphuric acid, 1 oz. On the third day after the physic, give—Iodide of potass, 3 dr.; starch powder, 3 dr.; camphor in powder, 3 dr.; bi-carbonate of potass, 6 dr.; nitrate of potass, 1 oz.; powdered gentian, 3 dr. Mix and divide into six powders, one twice a day in a pint of water, at 11 a.m. and 3 p.m. Diet : equal parts of bran and oats scalded, chilled water, good grooming for three days.

It sometimes happens that horses receive injuries to the legs during travelling, and the swelling, the result of such injury, is very long before it is reduced. Some practitioners, in an obstinate case, dress it with the biniodide of mercury ointment, 1dr. to 1oz. of lard. The ointment should be rubbed in every night till it produces a discharge; then foment with hot water instead, until the swelling of the skin disappears. Repeat the process till absorption has taken place.

Hunters frequently injure themselves when taking a fence or gate, the result being lameness and a swollen limb. When this is observed, administer a purgative, 5drs. aloes, and keep around the swelling a light linen bandage, to be kept continually moist with a solution containing a wine-glass of tincture of arnica to half a pint of water. Where the knee itself is affected, perhaps the best plan is daily friction with iodide of potassium ointment. If the knee is stained at all clean with milk. However, for very recent injuries there is nothing like a cold water bandage.

Bandaging and hand-rubbing are the only local remedies for swelling of the hind legs; but this frequently arises either from constitutional weakness or from the kidneys not acting properly. If the former is the cause, give one drachm of sulphate of iron three times a week; if the latter, five or six drachms of nitrate of potass.

TAR WATER, TO MAKE.

Tar water may be made by filling a recently emptied tar barrel with water, or a small cask may be smeared inside with tar. The water will be fit for use in a few days.

It must be given as a drench; dose one pint. It is said to be beneficial in chronic cough.

TENDER SHOULDER.

Bathe the affected part with a solution composed of a wine-glass of tincture of arnica to half a pint of water, and drive your horse in a flag-collar.

Some horses' shoulders are naturally very tender. Oil the inside of the collar before putting it on, and after work bathe the shoulders with water containing two drachms of tincture of arnica to the pint.

THICK WIND.

Everything depends on the food. Mix 2 bushels of oats, 1 ditto of crushed beans, 1 ditto of bran; give four feeds a day, mixed with a good quantity of wheat straw chaff, the whole slightly wetted; give

no hay, but at night let him have clean wheat straw. For a hunter you should not give the bran, except after hunting. If extra or quick work is wanted increase the beans. Give no hay, but green-meat or carrots in moderation, some say potatoes or swede turnips.

Some authorities advise to turn the animal out to grass for the summer; if this is objected to, give succulent food, such as carrots, grass, very little hay, and no corn. The administration of two grains of arsenic daily would be attended with benefit. Exercise three hours daily.

If the horse's wind improves by work you cannot do better than give him plenty of exercise, with nutritious food, avoiding grass or chaff in any quantity. Charcoal may be given in the food; half an ounce of the powder every day will be sufficient. Tar water is highly spoken of by many who have used it. The dose will be half a pint to a pint once or twice a day.

Arsenious acid in two-grain doses given daily for several weeks is also good.

It has been advised to feed on mangold wurzel. Boil or steam the mangolds (steaming is the best), and when well cooked mash them into small lumps; mix a little bran and a handful of hay-chaff in each feed at the time of feeding. A moderate-sized horse will require about 56lb. of this mixture in twenty-four hours. It will be better to give it warm, and four times a day. A horse fed on this food requires very little hay, and will not drink much water. If you ride or drive fast, it will be better to give three feeds of oats, with a handful of beans in each feed every day, and at night, after work is done, a feed of mangolds, about 14lb., mixed with bran and chaff.

As a rule the food should be given in as small a compass as possible, and the coat should be kept short.

THOROUGH-PIN.

A thorough-pin may be defined to be wind-gall running from side to side, occupying the hollow interval situated at the upper and back part of the hock. It is an unnatural increase of the synovia in the joint bags of the hocks caused by work.

Hard up-hill work, when excessive exercise is forced upon the hock-joint, may be reckoned among the chief exciting causes of this disorder.

Persistent pressure must be applied to the part by means of a bandage, with two pads so arranged as to impinge directly upon the enlargement.

THRUSH.

Thrush is of two kinds, complete and incomplete; and is caused by inflammation of the foot, especially of those parts near the sensible frog, which secretes pus instead of horn, and which matter escapes at the cleft of this horny frog. Thrush is often caused by horses standing on foul litter.

Bad shoeing often produces thrush, because it produces contraction of the foot. The disease is both the cause and the effect of contraction. In some instances the appearance of the foot is scarcely altered, and the malady itself is only recognised after careful examination by the fetid discharge.

The symptoms of incomplete thrush is a thin discharge which comes from the cleft of the frog, and is caused by severe inflammation of the adjacent parts. If this is allowed to go on the frog will in time scale away, and when renewed is only so partially and in a contracted form, leaving numerous fissures, which discharge purulent matter, offensive to the smell. If this be neglected canker may supervene. In treating the first symptoms of disease be careful not to stop the discharge too rapidly. Astringent lotions must be applied with great caution. Often, if a running thrush be stopped, canker results. From feet affected with thrush the shoes should be immediately removed, the ragged horn cut away, and the animals must be placed on a soft pasture where natural pressure and a cooling diet can be obtained.

The following lotions have been recommended to be applied:—

Remove the shoes from the horse's feet, and wash them daily with soft soap and warm water; also, three times a day, bathe the affected feet with a cold solution of salt and water. Keep the bowels gently open, and exercise the animal for two hours daily—on the turf, if possible. Where the horse seems weak give half a drachm of iodide of iron twice weekly. It has been recommended to cut away the ragged horn, and lay bare the surface from which the discharge comes. Then apply a little of the following on tow, which is to be inserted in the cleft and kept there by means of a short piece of stick stretched across the shoe: chloride of zinc 3gr., tincture of sesquichloride of iron $\frac{1}{2}$ oz., water $\frac{1}{2}$ oz.

Some practitioners wash the frog and foot twice daily with a lotion consisting of nitre and water—an ounce of the former to half a pint of the latter; and this, together with half an ounce of nitre, given daily in a pint of water, with two drachms of aloes added to this solution weekly. Only a feed and a-half of oats and a bran mash should be allowed daily.

A good authority recommends the following practice:—"After cutting away the ragged horn quite smooth," he says, "into the cleft of the frog may then be drawn a little tow previously dipped in a mixture of tar and salt, or carbolic acid and glycerine, in the proportion of one part of the acid to eight of glycerine, and these dressings should be repeated two or three times a week, and certainly after every journey in wet weather. When the disease has existed for some time, and implicates the whole of the frog, which becomes ragged and literally rotten, any fungoid masses which may appear must be touched freely with caustic. Nitric acid will be very useful for the purpose, and a dressing of tar, mixed with an eighth part of sulphate of copper, should be afterwards spread over the part, the foot properly stopped, and a leather sole used as long as the parts require such a protection."

TONIC BALL.

Take sulphate of iron, 4oz. ; ginger, 2oz. ; common mass, 10oz. ; beat together and form into balls ; each to contain about eight drachms of the above compound. Or the following for colts : Give twice daily, in some corn, a powder consisting of one drachm of sulphate of iron and the same quantity of powdered gentian.

TUMOUR.

Get a piece of sheet lead, the same size as the tumour (taking care to have the edges perfectly smooth), and bind it on the part with a linen bandage well saturated with cold water, and renewed as it becomes dry.

WARBLE.

Pass a seton through the warble and foment daily with hot water.

WARTS.

Make an ointment composed of one part of arsenious acid in fine powder with four parts of lard, to be applied over and just around the base of each excrescence.

Pick off the hard, rough surface till the wart bleeds, then rub in some yellow orpiment, or, if in a part where the loss of a little extra skin is of no importance, a little corrosive sublimate in powder. Either will destroy the wart, but the latter is the most certainly effective in one application, though its effect are apt to extend beyond the wart.

The yellow orpiment should be made into a thick paste with

water. If any part of the wart remains, renew the application, taking care to keep it off the ulcerated surface left by the sloughing out of the wart.

WINDGALLS.

No. 1.—Apply persistent pressure for six or seven weeks, by means of two pads attached to the inside of a strap, and so arranged as to impinge directly on each enlargement.

No. 2.—Muriate of ammonia, 1oz.; muriatic acid, $\frac{1}{2}$ oz.; water, 1 quart. Mix in warm water (boiling is better), and let it stand until cold. Keep your horse's legs bandaged, and well wet with the lotion. If taken in time this will effect a cure; if neglected, the only application likely to be of service is blistering, and this seldom effects a cure unless assisted by rest. Windgalls are invariably the consequence of hard work.

No. 3.—Apply bandages dipped in a saturated solution of alum with 2oz. of sal ammoniac added to each gallon. This should be kept in a cold place, or if it is dissolved as wanted it will be better. The pressure and cold together produce considerable absorption, but they do not eradicate the enlargement, which returns on discontinuing the remedy.

No. 4.—Upon a moistened piece of rag place a piece of cork, big enough to cover the windgall, or of such thickness as may be necessary. Above the cork lace on a vulcanised india-rubber bandage. Constant and equal pressure will by these means be kept up.

WORMS.

All hard, indigestible food should be carefully avoided; beans should be withheld, but oats, with a little bran and chaff, carrots, or green food, with occasional bran and linseed mashes may be given. Exercise is important, and should be regulated according to the strength of the animal; the surface of the skin should be regularly stimulated by friction, and avoid exposure to cold and wet.

No. 1.—Administer daily for three weeks to each horse a ball containing $\frac{1}{2}$ dr. of the iodide of iron.

No. 2.—Give $\frac{1}{2}$ dr. of calomel in a small mash at night, and the next morning a common aloetic ball.

No. 3.—Sprinkle over a feed of corn nightly for a month $\frac{1}{2}$ oz. of liquor arsenicalis.

No. 4.—For a horse give 2dr. of tartar emetic for three or four mornings, followed by a dose of physic. This is an effectual vermifuge.

No. 5.—Some prefer 8dr. of sulphur.

No. 6.—Let the animal fast for fifteen hours at least; give him from a half to three-quarters of a gallon of potatoes which have become green by exposure to the atmosphere (no other food for two hours after). Tape and other worms will be voided.

No. 7.—The nuts (powdered) of the areca catechu are good as a vermifuge. Give a couple of the nuts (about $\frac{1}{2}$ oz.) in powder twice or thrice a week in the animal's mash, for two or three weeks, after which a dose of physic (4dr. or 5dr. of aloes) will have the desired effect. If the areca nut is refused it may be powdered and made into a couple of boluses with linseed-meal and boiling water, when it may easily be given.

No. 8.—Try hot grains after being taken from the mash-tub. It often answers.

No. 9.—One pint of cold-drawn linseed oil will be found a cure; but perfect rest must be given while it remains in the stomach. The worms will surfeit themselves with the oil, and so die, when they will be discharged in the course of nature.

No. 10.—Put into the food of the horses some rye, more and more till the horses void dead worms. This should be continued for some time, so that the spawn has time to vivify. Or, give the horses the young shoots of the silver fir, as many as they like to eat. Most horses like them. If the silver are not to had, try any other fir. The oftener the better.

No. 11. Give daily in a bran mash a drachm of potassio-tartrate of antimony, and on every sixth day administer a ball of aloes (5dr.) To prevent worms, allow your animals to drink water with a little salt in it, three or four times a week.

No. 12.—Common linseed oil, one pint, mixed with $\frac{1}{2}$ oz. of spirits of turpentine.

No. 13.—Inject 1 pint linseed oil mixed with 3dr. spirits of turpentine.

No. 14.—Feed him plentifully, and administer daily for three weeks a ball containing a drachm of the iodide of iron, after which give a purgative (5dr. of aloes).

No. 15.—Areca nut will expel them; but when they infest the rectum, an injection composed of two quarts of warm water, with 1oz. of soft soap and 2oz. of oil of turpentine, is the best remedy, and may be employed in conjunction with the areca nut powder.

No. 16.—When emaciation is one of the symptoms of bad condition, and parasites are known to be present, doses of calomel and tartarised antimony may be given for several successive mornings, and be followed by a mild aloetic purge. A half drachm each of

calomel and antimony given in a ball each morning for three or four doses. If the horse is too weak to bear the mercurial and purgative treatment, sulphate of iron, with powdered quassia, will form a good worm medicine. Half a drachm of the sulphate of iron, and half an ounce of quassia made into a ball may be given every day, and continued two or three weeks.

No. 17.—Try common salt, of which a tablespoonful may be mixed with the food daily, or a piece of rock salt may be kept in the manger.

FEEDING.

BRAN.

Dry bran mixed well with other food is not injurious, exciting peristaltic action. But when given alone and dry, the animal generally swallows it rapidly, and consequently it is imperfectly masticated and insufficiently insalivated.

CARROTS.

For slow work they form an excellent food given sliced and with bran. Without bran or corn they do not seem to agree nearly so well for working horses. Carrots produce fat more than muscle, so that they do not supply the place of oats to any great extent where hard work is required. Give 5lb. or 6lb. of carrots twice a day.

COLT, FEEDING OF.

The adult horse does not require so much of the flesh-making principle as the young and growing animal, but he seems to require a greater variety. The adult merely requires enough to replace the waste—the wear and tear of his system. With the young and growing animal the case is different. We require bone, muscle, and nerve. Oats, corn, and pollard furnish the same. The colt obtains from its mother's milk all the elements of its own organization in a concentrated form ; therefore, when weaned, the colt must be furnished with the same equivalents in the form of fodder, ground oats, wheat bran, and meal. In addition to the food required for the colt's growth, we must also furnish enough to supply the waste incurred by expenditure of muscular power. They are not, however, to have a large quantity at a time, but little and often.

FATTENING HORSES.

If you wish to make a horse up for sale, scald a pound of linseed and give it to him mixed with a few sliced carrots, and his feed of corn every night.

FOOD REQUIRED, AMOUNT OF.

In this particular horses vary, some requiring more than others. For ordinary carriage horses give from two to three quarters of oats (a quarter being a quarter of a peck) every day, or from a bushel and a half to two bushels a week. If the work be very hard increase the quantity. As to hay, it is usual to give two-thirds of the hay at night and one-third in the morning, after the horse is exercised and dressed (25lbs. to 30lbs. being a fair amount). Some say that horses should have water always before them excepting when they come in hot from a journey. If only at intervals it should be given four times a day. Kiln-dried oats are liable to produce diabetes and thick wind.

GENERAL FEEDING.

Do not give a horse unchilled pump-water. The temperature should be that of the stables. A hunter should have about 10lbs. of hay per diem. A quarter of oats is eight bushels, each weighing about, on the average, 40lbs. A quartern is a quarter of a peck. Some people contract with a dealer to supply them regularly once a month. The following would be fair allowance for a single horse: 1qr. oats, 4 bushels chaff, 3cwt. to $3\frac{1}{2}$ cwt. hay, and 8 trusses straw. Some people give their horses a mixture of hay, straw, oats and Indian corn in equal proportions. About 20lbs. per diem of this mixture ought to suffice. For a pony, unless worked very hard, give 1bush. oats, and $\frac{3}{4}$ cwt. hay per week.

Oats, with a single handful of bran to each feed, and hay, is the food on which horses do best; though for hunters and other horses in full work, a handful of beans, as well as bran, may be given with each feed.

Hunters are fed, in some well-managed establishments, five times a day; four feeds are enough. Early in the morning, a little before noon, five in the afternoon, and at doing-up time in the evening—say eight o'clock—are sufficiently frequent. The other period of feeding commonly adopted is a second feed in the morning after the horses go into the stable from exercise.

On hunting days the horses going out should have their morning feed divided, viz., by giving little more than half an ordinary portion on first going to stable, and a small feed about an hour and half before the horse leaves the stable. In the evening, after the day's work is over, two light feeds may be given—one as soon after returning to the stable as suffices to make the horse comfortably clean and dry; the second small feed two hours later at night.

One rule to be observed in the feeding of hunters and all other horses is, that the portions of corn given should be nicely divided, given at regular periods, with the important exception, equally necessary to be kept in mind, that no horse used for fast work should be allowed to have food within an hour of his going out of the stable, and that even though, as in the case of hunters, he may have some distance to go to covert.

Another rule, almost as important is, that the tired horse should not be overloaded with food, either on the evening after hunting, nor yet on the following day, but should have his feeds at regular intervals, though in somewhat diminished portions, until he craves for it and begins to feel fresh. Hunters should be watered three times a day—in the morning, before going out to have their walking exercise; at noon before feeding; and on going to stable in the evening; immediately after which they should be dressed over, fed, and have their hay given them for the night. Any of the horses going out to exercise which may be intended to have a canter or a steady gallop should not be watered until they return; the practice followed in training stables applies in that case.

INDIAN CORN.

It answers well mixed with beans, and should be given bruised in the state known as "hominy." Or it may be mixed half-and-half with oats. Indian corn is all very well for slow work, but does not answer for hunters. Instead of bruising, some people soak the grain well before giving it to the horses.

MEDICATED PROVENDER.

Bruised oats, 4lb.; bruised bay-berries, 2oz.; common salt, 1oz. mix well. Add a few carrots, thinly sliced. Nourishing and stimulant.

VETCHES OR TARES.

For harness horses not likely to be over-driven vetches may be given, as a change, with good effect. They make them sweat very freely, and consequently the horses should be quietly used while eating them.

HARNESS, ETC.

CLEANING BROWN HARNESS.

Wash with yellow soap, and dress with a very small quantity of neatsfoot oil.

CLEANING HARNESS MOUNTINGS.

Brass harness is cleaned with rotten-stone and a feather, or, if very dirty, with the addition of a *very little* oil of vitriol. Plated harness may be kept in order with whitening; a piece of calico being dipped in some water in which whitening has been mixed up, and then being dried, it prevents the powder getting into the leather. Plate-powder answers better, but it is generally considered too expensive. For those parts which are removable or which are embossed a brush must be used.

CLEANING SADDLES, &c.

Wash the saddle with the whites of three eggs evaporated till the substance left resembles the common gum, dissolved in a pint of gin, and put into a common wine-bottle. and filled up with water.

HARDENED LEATHER.

Wash well with soap and water, and dress well with good neats-foot oil.

HARNESS BLACKING.

No. 1.—One pint of spirit of turpentine, $\frac{1}{2}$ oz. of Japan ink, 2oz. of beeswax, 2oz. of white wax, 1oz. of gum benjamin, 1oz. of indigo blue, 2oz. of drop black. Melt the wax and gum benjamin, and then add the other ingredients, having warmed the ink. This blacking will never harden, but it is always in a liquid state, and will be found to keep the harness soft and pliable. Apply with a soft brush, and polish with another, and gently rub with a soft cloth.

No. 2.—Boiled linseed oil, 1 pint; beeswax, 2oz.; Burgundy pitch, 1oz.; spirits of turpentine, 2oz.

No. 3.—Three ounces beeswax; $\frac{1}{2}$ lb. ivory black; 1 pint neat's-foot oil; 2oz. Castile soap; 2oz. lard; 2 table-spoonfuls of aloes.

No. 4.—One pound and a half of tallow; $2\frac{1}{2}$ lb. lard; 2 pints neatsfoot oil; 3oz. beeswax; mix; then add $1\frac{1}{2}$ oz. of india-rubber dissolved in three quarters of a pint of spirits of turpentine. The leather must be well washed, and, when quite dry, the mixture well rubbed in before a hot fire.

No. 5.—Take 2oz. of beeswax, and cut as thin as possible; cover it with turpentine, and let it remain until dissolved; add 1oz. of ivory black, and a tablespoonful of sweet oil. Mix well together. If it gets too stiff, add a little more turpentine.

No. 6.—One pint of spirits of turpentine, 1oz. Prussian blue, $\frac{1}{4}$ lb. of beeswax, one tablespoonful of lamp black. Slice the wax very thin, put

it in a tin vessel. pour on it the turpentine, cover very closely, leave for twenty-four hours, then stir it up, grind the other articles and mix them in it thoroughly.—N.B. To be kept covered or it becomes hard.

No. 7.—Spirits of turpentine one pint, add beeswax until as thick as thick cream; place near the fire; take Prussian blue one-third part, best ivory black two-third part, mix and rub up with beeswax until a drop placed on the nail cannot be seen through, then add a thick solution of shellac in spirits of wine, with 2oz., of gum benzoin to the pint, and of soft soap 1oz., and melt together in a hot-water bath; lay on with a black-lead brush (very hard) and polish with a soft brush; use once per month. It will polish at once after washing.

No. 8.—Half a pound of beeswax, three quarterns of turpentine, $\frac{1}{4}$ lb. of drop black, $\frac{1}{4}$ lb. of indigo, and one glass of the oil of thyme. When prepared, keep it in a tin canister, covered. Apply it in the usual way with a brush rather stiff, first washing the harness well of all other ingredients.

No. 9.—Two ounces of drop black, 2oz. of spirits of wine, $\frac{1}{2}$ oz. indigo, $\frac{1}{2}$ oz. india-rubber, 3oz. white wax, three pennyworth oil of thyme. Dissolve the wax and india-rubber together over a slow fire until well mixed; then mix all together. Of course you can make any quantity after these proportions.

No. 10.—Take of beeswax $\frac{1}{2}$ lb., spirits of turpentine $\frac{1}{2}$ pint, ivory black $\frac{1}{2}$ lb., Prussian blue 1oz., spermaceti 1oz.; mix the ingredients, and boil gently for three-quarters of an hour. Then allow the composition to cool, and it is fit for use in the ordinary way.

No. 11.—Into a pipkin put 2oz. of black resin or Burgundy pitch, and place it on a gentle fire; when melted, add 3oz. of beeswax, when dissolved, take it off the fire, and add $\frac{1}{2}$ oz. of fine lamp-black and $\frac{1}{2}$ dr. of Prussian blue; stir them so as to be perfectly mixed, then add sufficient spirits of turpentine to form a thin paste, and let it cool. Apply it with a linen rag, brush it over with a soft polishing brush, and then rub it over with the handle of an old tooth-brush or piece of smooth ivory.

No. 12.—Take beeswax (shred fine) 8oz., and turpentine sufficient to cover it; let them stand till the wax is dissolved (three or four days); ivory black 4oz., olive oil (I use neatsfoot oil) 2oz., Prussian blue 2oz. Rub the ivory black and Prussian blue well together to a fine powder in a mortar, then add the oil, and gradually the other ingredients, and thoroughly mix them. If it gets hard by keep, soften with turpentine.

No. 13.—Half a pint of spirits of turpentine, $\frac{1}{4}$ lb. of soft soap, $\frac{1}{4}$ lb. of beeswax, 2oz. of gold size, 2oz. of drop black, 4oz. of Japan, ink, $\frac{1}{2}$ oz. of indigo blue, $\frac{1}{2}$ oz. of Prussian blue. Melt the wax and soap, and, when melted, add the liquids, taking care the turpentine does not take fire—having previously reduced the black and blues to a fine powder, mix all together, and let the mixture simmer for twenty minutes. Have some clean blacking bottles ready, and pour the mixture into them; before using, let the bottle stand a short time in hot water, it will then become a liquid somewhat thicker than ink. Have the harness free from any other composition; apply the mixture to the harness with a sponge very thin; and, when dry, polish with a soft brush.

No. 14.—Take 1lb. of beeswax, 6oz. soft soap, $\frac{1}{4}$ lb. ivory black, and 1oz. Prussian blue; grind up with 2oz. of linseed oil, adding half a pint of oil of turpentine.

MOTHS IN CLOTHS.

Dust the cloths with pepper or sprinkle a little paraffin or other oil over them occasionally. Apply spirit of turpentine, and afterwards tie them up closely. The turpentine should be put on every five or six weeks.

Place them, when not in use, in a cedar box.

OILING.

Oils should not be applied to dry leather, as they would invariably injure it. If you wish to oil a harness, wet it over night, cover it with a blanket, and in the morning it will be dry and supple; then apply neatsfoot oil in small quantities, and with so much elbow-grease as will insure its disseminating itself throughout the leather. A soft, pliant harness is easy to handle, and lasts longer than a neglected one. Never use vegetable oils on leather, and among animal oils neatsfoot is the best.

PICKLE FOR BITS, &c.

Take half a pail of water from the pump, throw your bits and stirrup-irons into the water as soon after they are used as possible, and before dressing the horses. If left until the next day, they will be scarcely dirtier than when put into use the preceding one.

PRESERVING SADDLES, &c.

Neatsfoot oil is the best preservative for saddles and bridles. After they have been sponged with lukewarm water, and all the

dust or mould removed, rub them dry. The oil should then be applied with a sponge not too much saturated. It may be well to have a curtain made to draw before the bridles when not wanted; this will keep off the dust, and prevent damp from affecting them so much.

All the saddle linings and clothing should be well beaten with a stick once a week, so as to deter the moth from laying its eggs, and also to get rid of the maggots after they are hatched. Dressing with spirit of turpentine is partially effectual, but the most successful plan is to keep all the saddlery which is not in use pinned up in calico in such a way as mechanically to prevent the moths from depositing their eggs.

Deer's suet is an admirable preservative. When quite dry rub them thoroughly with the suet, then pack them in an air-tight case. Deer's suet may be obtained from any park-keeper where deer are kept at from eightpence to a shilling a pound. In putting on the suet warm it slightly, and rub in a small quantity with a piece of flannel.

REARING HORSE.

There is a bit formed thus, which may be applied to a



common bridle head-piece by the two side rings, and a strap such as is used to a noseband martingal fitted with a spring hook to the lower ring. No horse can rear with this in his mouth, as the reverse part catches on the tongue and lower jaw. A common smith may make the bit—say five inches in circumference, deep enough to hang free outside his lower jaw. He may have this in his mouth in addition to the usual bridle.

SPOTS IN SADDLES.

Spots caused by damp in saddles cannot be at once removed, but by well rubbing the saddle with deer's suet, once or twice a week, they gradually disappear.

STAINING SADDLES.

No. 1.—Wash with a solution of soft soap, and when perfectly dry (atmospherically) rub in lightly horse's blood. By these means an uniform brown colour is produced, which is brought to a high varnish by the blood. Using the blood is most efficacious after a saddle and bridle have been exposed to rain.

No. 2.—Wash well with brown or yellow (not black) soap, not

wetting the leather too much, and, when perfectly dry, polish it with a moderately hard brush, using beeswax as a cosmetic. The beeswax is applied by brushing it well, and the particles adhering to the points of the brush impart, by due friction, a fine polish to the leather. After a few applications, an artificial coat is given to the surface, which, except in wet weather, or after much hardship, dispenses with the necessity for the constant use of soap and water, a few touches of the brush and beeswax removing the effects of a summer-day's ride. Should the leather be sticky, blame not the beeswax, but rather the too copious use of it.

No. 3.—Apply the albumen or white of an egg to the saddle and give it plenty of elbow-grease with the aid of a piece of flannel. The same application to a new saddle, two or three times repeated, will produce that rich dark-brown so much desired.

No. 4.—Dissolve in a pint of soft water 2oz. of carbonate of potass (salts of tartar) and apply the solution with a clean sponge.

No. 5.—Try spirit of lavender, applied with a sponge. As the spirit, as sold, often varies in strength, it will be as well to try it first, and dilute with water until it communicates the required tint.

No. 6.—Sponge the leather with the coarsest linseed-oil until it is well saturated, taking care to apply it equally to all parts, so as to keep the whole of the same hue. Expose in the open air during the day, and place under cover, in a thorough draught, at night. When it is quite dry (which should be in three or four days), clean with soft soap in the usual way. The reins of a double bridle, a 12lb. saddle, and the stirrup-leathers, ought to absorb about 2oz. of oil.

No. 7.—First wash the saddle with warm milk; let it dry; then rub on very thin, with a piece of linen rag, two parts goose or turkey fat to one part beeswax (which must be well boiled together), then polish with wash-leather, which will require two pieces, a first and second.

No. 8.—Make a solution of oxalic acid (not too strong), and pass it lightly with a sponge over the saddle, and it will readily turn to a brown colour; and if the first application does not make it dark enough, repeat it *ad libitum* till the desired colour is obtained. Afterwards wash the saddle with soft soap and warm water, and finish off with milk.

No. 9.—First air the saddle, then wash it two or three times with warm milk, and rub with wash-leather till dry. Then rub in Newton's saddle paste, and rub again with wash-leather till a polish is obtained.

MISCELLANEOUS.

ACTION OF A HORSE, TO IMPROVE.

No. 1.—Lunge a “daisy-cutter” amongst mole-hills; he will pick up his feet rather than tumble on his nose.

No. 2.—Ride him in a straw yard, with the straw a good depth.

No. 3.—Trot him for a short time daily over heavy ploughed land.

No. 4.—Procure two hollow belts of leather, each having a strap at one end and buckle at the other (much the same in shape as the rings used to prevent cutting); these are to be half filled with shot, and buckled on the fore-legs, between the hoof and pastern, every time the horse is taken out. It is said that the rattling makes the horse step up, though in our opinion he would soon become accustomed to it.

AGE OF A HORSE, TO KNOW.

The colt is born with twelve grinders. When four front teeth have made their appearance, the colt is twelve days old; when the next four come forth it is four weeks old. When the corner teeth appear the colt is eight months, and when the latter have attained the height of the front teeth it is one year old. In the two-year-old the kernel (the dark substance in the middle of the tooth's crown) is out of all the front teeth. In the third year the middle front teeth are being shifted; and when three years old, these are changed for the horse teeth. The next four teeth are shifted in the fourth year, and the corner teeth in the fifth. At six years old the kernel is worn out of the lower middle front teeth, and the bridle teeth have now attained their full growth. At seven years a hook has been formed on the corner teeth of the upper jaw, the kernel of the teeth next to the middle fronts is worn out, and the bridle teeth begin to wear off. At eight years old the kernel is worn out of all the lower front teeth, and begins to decrease in the middle upper fronts. At nine years, the kernel has wholly disappeared from the upper middle front teeth, the hook in the corner teeth has increased in size, and the middle teeth lose their points. In the tenth year the kernel is worn out of those next to the middle fronts of the upper jaw; and in the eleventh year the kernel has entirely vanished from the corner teeth of the same jaw. At twelve years the crown of all the front teeth in the middle lower jaw has become triangular, and the middle teeth are much worn down. As the horse advances in age the gums shrink away from the teeth, which consequently acquire a long, narrow appearance, and their kernels have become changed into a darkish point; grey hairs increase on

the forehead, over the eyes, and the chin assumes the form of an angle.

ANATOMY OF THE HORSE.

The Arabs have the following rules for the proportions of a horse :—The ears should be short, and quick in action, the bones firm but thin, the jaws not fleshy, nor the muscles enlarged, the nostrils well spread, like those of a lion ; the eyes black and set in the centre of the head ; the chest prominent, proceeding gradually from the slope of the shoulders, which of necessity causes them to project. The withers prominent, the loins close, the shoulder long, the thigh short, the belly hollow, the buttocks well rounded, it being regarded as most fortunate when the buttocks are as long as the withers and back together. The veins in the legs should be scarcely perceptible, the gaff black, and of one shade, the mane fine and thick, the skin firm, and the tail stout, with a gradual declension. The horse, in fact, should be proportioned thus : *Four points broad*—The head, the chest, the buttocks, the limbs. *Four points long*—The chest, the fore-shoulders, the belly, the hips. *Four points short*—The ribs, the pasterns, the ears, the tail.

When a horse is longer from the point of the withers to the end of the nose than from that point to the tail, the proportion is good ; it being different when the reverse is the case.

Acting on this, General Morris has proposed the following plan of estimating the true proportion of a horse :—

“The generic law of proportion applicable to strength and swiftness, sustained by a certain mathematical demonstration, is found in the direction of *rayons articulaires*. Let us remember they are composed, not only of bone, but of muscle. It is not the bone only in its shape and direction which is to be considered, but what is seen in imagination when the horse is in motion.

“First, a perfect parallelism should exist between the head, the shoulders, the buttocks, and the pastern. Second, the same applies to the chest, the arm, and the bones of the haunches. All these parallel directions should form angles of 45deg. Neither the head nor chest really form these points, but for general consideration they should be so regarded.

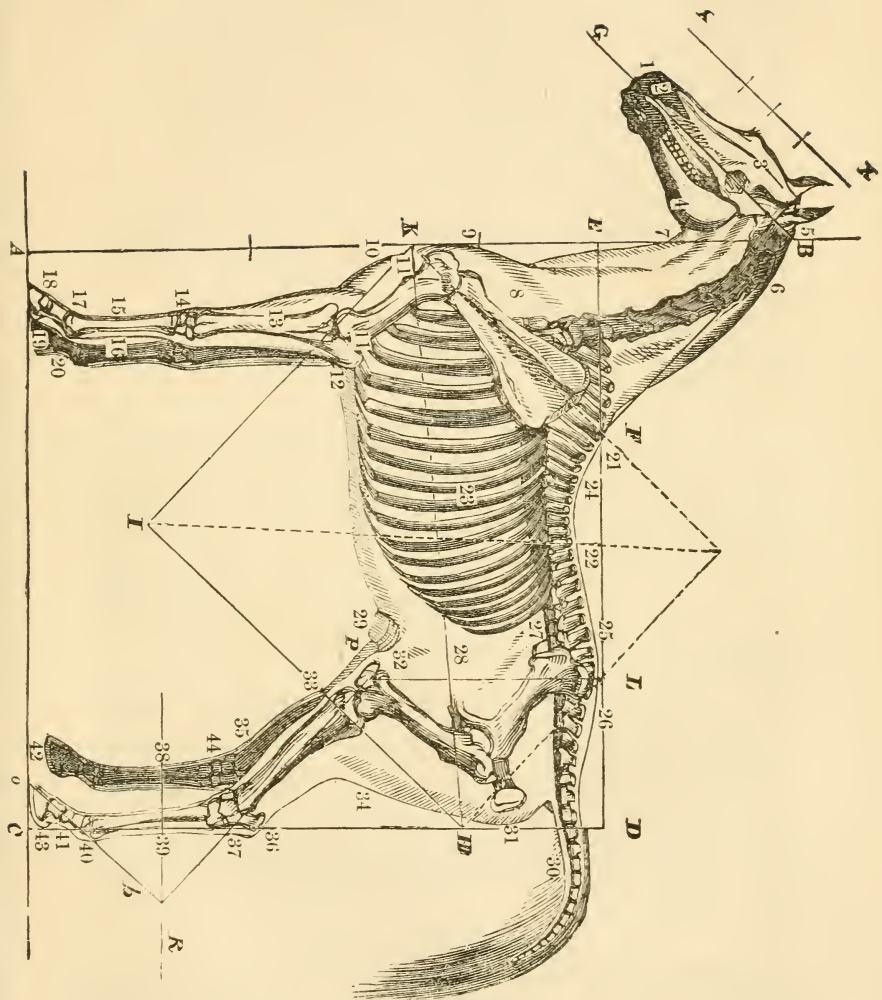
“Let A C be a horizontal line, or starting point. At the point A raise the perpendicular A B, and take upon this last the length A E, equal to twice and a half the line X X, imaginary measure of a head. This length A E represents, according to Bourgelat, the height of the horse, from his head to the ground.

“Drawing from the point E a line parallel with the base, and

making E D equal to A E, we form with the base the square A E D C, which would inclose the whole horse. (A series of experiments has induced M. Vallon, the veterinary, to think that the length of a horse might exceed his height by a fifth.) Afterwards we measure on the same vertical line A B, a length equal to three heads and one third, which gives us the distance from the nape to the ground. At the point B we form with the line A B an angle of 45deg., the half of a right angle, which gives us the position of the head in a natural attitude—that is to say, the attitude of a blood horse when aroused by any cause whatever. To have the direction of the crest, we trace B F perpendicularly to the line B G, the direction of the head, and the point F, at the intersection of the line B F with the horizontal line E D, will be the top of the withers, for B F is of the length of a head, and one-sixteenth the proportion adopted by Bourgelat. At the point F, the top of the withers, we draw F K, parallel to the line of the head, and we obtain the position of the shoulder-blade.

“To get at the correct position of the arm, at the point K, we draw the line K I, parallel to B F, in the direction of the chest. Adopting the principle of Bourgelat, that there should be the length of a head from the withers to the loins, we trace upon the horizontal line E D the length of the head, F L; the point L determines the point of the hip-bone; and, tracing a parallel through the point L, in the direction of the heart, we reach the height of the haunch, L H, and subsequently the point of the thigh running the point H. Let us here remark, that the point H does not represent the point of the buttocks, but merely the intersection of the haunch and thigh-bone. The line P R shows the direction of the leg-bone. To attain its true direction we say that the proportions admitted by Bourgelat are the length of a head from the point of the haunch to the knee-pan, by a vertical line. Measuring, therefore, the length of the head upon this vertical line, from L, the bone of the haunch, we draw at the extremity, P, of this line, a parallel to one of the three points of the fore-shoulder, or haunch. This will determine the bone of the leg—or, rather, this line, P R, will be the tangent to the fore part of the knee-pan, and passes the centre of the ham.

“We have drawn the line ‘o b’ at the angle of 45deg. from the ground, and shown the natural position of the pastern-bone; this line being extended, crosses, at a right angle, the direction of the leg, taking the two, P R and ‘o b,’ to represent two equal forces, viz., muscular contraction, and the resistance of the earth.”



Points of the Horse.

- | | | |
|-----------------------------------|--|---|
| 1. Muzzle. | 18. Coronet. | 31. The hip-joint, round,
or whirl-bone. |
| 2. Nostril. | 19. Hoof or foot. | 32. The stifle-joint. |
| 3. Forehead. | 20. Heel. | 33. Lower thigh or
gaskin. |
| 4. Jaw. | 21. Withers. | 34. The quarters. |
| 5. Poll. | 22. Back. | 35. The hock. |
| 6. 6. Crest. | 23. 23. Ribs (forming to-
gether the barrel or
chest). | 36. The point of the
hock. |
| 7. Thropple or wind-
pipe. | 24. The circumference
of the chest at
this point, called
the girth. | 37. The curb place. |
| 8. 8. Shoulder-blade. | 25. The loins. | 38. The cannon-bone. |
| 9. Point of shoulder. | 26. The croup. | 39. The back sinew. |
| 10. Bosom or breast. | 27. The hip. | 40. Pastern or fetlock-
joint. |
| 11. 11. True-arm. | 28. The flank. | 41. Coronet. |
| 12. Elbow. | 29. The sheath. | 42. Foot or hoof. |
| 13. Forearm (arm). | 30. The root of the dock
or tail. | 43. Heel. |
| 14. Knee. | | 44. Spavin-place. |
| 15. Cannon-bone. | | |
| 16. Back sinew. | | |
| 17. Fetlock or pastern-
joint. | | |

CORDS, CLEANING OF.

No. 1.—They should be washed with white soft soap in lukewarm water, and then rinsed in plenty of cold water. When nearly dry they should be turned inside out and strained upon a board to their full extent, and just before they are quite dry they should be ironed on the wrong side.

No. 2.—Take half a dozen potatoes and scrape to a pulp, which cover with rain water, and let soak for half an hour; then pour off the water, and with it scour the cords by means of a water brush, and dry before a fire—not in the sun.

COLT, TO DETERMINE HEIGHT HE WILL ATTAIN WHEN FULL GROWN.

When the colt gets to three weeks old, or as soon as he is perfectly strengthened in his limbs, measure from the edge of the hair on the hoofs to the middle of the first joint, and for every inch it will grow to the height of a hand of four inches when its growth is natural. Thus if this distance be found sixteen inches, it will make a horse sixteen hands high. This rule may not hold good in every case, but in nine cases out of ten it will give the ultimate height within half an inch.

CORN INDICATOR, TO MAKE.

Prepare a wooden spout about four inches square in the clear, and let it lead down from a corn-chamber, which is kept under lock and key, to the saddle room or stable to which the groom has access;

then, making two slits at such distances apart as will include one quarter of a peck of corn between them, two slides are adapted to these, and connected by a lever, nearly in the same way as in the common shot pouch, so that as one is pushed in the other is drawn out. The only difference is that each of the slides must pass through both sides of the spout, and project four inches beyond it; for, without this precaution, the groom can pull them half way, and the corn will then run through freely, as long as the lever is so held. An ordinary index attached to this lever, and moved one notch by each action of the slide, will register as many quarters as have been allowed to pass through. Any carpenter can make this if he has the index supplied to him, but an agricultural machine maker is the proper person to do the work thoroughly well.

DYEING HORSES.

To obtain a dye for a bay procure a small handful each of sumach and alder bark, and boil them in half a pint of water with half a drachm of copperas; then paint the grey hairs over again and again till the colour is dark enough.

FLIES FROM HORSES, TO KEEP.

Fill a tub with water, and put plenty of walnut leaves into it; let it stand a day or two, and when the horse is required for use, with a drench moisten with the decoction all the most susceptible parts.

HORSE BARKING TREES.

You may prevent horses from barking trees by tying to the stem of them a few branches of thorns sufficiently thick and high to prevent the horses reaching the bark; they will last for several years. Another plan is to lay on the ground, all round each tree, a quantity of boughs, or rough arms of trees. Horses will not attempt to stand on or amongst these, so that they have only to be placed sufficiently far from the trees. Good iron tree guards, at 20s. to 22s. each will be the most durable and most sightly. Wire netting, of a larger mesh than is used for keeping rabbits out of a flower-garden, loosely fastened round the trees, is, on a small scale, inexpensive and efficient.

HORSE DESTROYING HIS CLOTHING.

No. 1.—Have a crib-biter's bar-muzzle made. This can be always kept on, as a horse can easily eat both corn and long food with it on.

No. 2.—Get a common coarse horsehair rug. Horses will of course “try it on” with the horsehair rug at first, but after one trial they generally drop it.

No. 3.—Dissolve a tablespoonful of cayenne pepper in half a pint of train oil, and dab an old roller, &c., with it, the horse will not touch the clothes. If he should, a teaspoonful of turpentine may be added.

No. 4.—Put a cradle on, it is quite impossible for the horse to turn either way with his head.

No. 5.—A long stick, buckled to the roller at one end, and to the head-stall at the other, is a most efficient prevention. It should be left loose enough to allow of the horse lying down in comfort. The pole should be fastened by a very short strap to the roller. and should be long enough to reach half way up the neck from the shoulder; from this point a strap (or chain if the horse is very savage with his mouth) should extend to the headstall, where a buckle should fasten it securely behind the jaw.

HORSE FROM FIRE, TO EXTRICATE.

If the harness be thrown over a draught horse, or a saddle on the back of a saddle horse, they may be led out of the stable as easily as on common occasions. Should there be time to substitute the bridle for the halter, the difficulty towards saving them will be still further diminished.

HORSE GETTING HIS TONGUE OVER THE BIT, TO PREVENT.

A piece of stout leather, about 2in. wide and 4in. long, stitched on the bar of the bit to form a flexible port, will prevent the horse getting his tongue over the bit.

HORSE HANGING OUT THE TONGUE.

No. 1.—Fasten a small sprig of gorse to the cheek of the bit, so that every time the tongue is protruded it gets pricked; the horse will soon get over the trick.

No. 2.—Put a port on the snaffle of whatever pattern of bit-and-bridoon bridle best suits the horse.

No. 3.—Take a narrow strip of leather and fasten a row of nails (tin tacks) along it. Fix the leather from one cheek of the bit to the other, so as to form a bar. The horse on putting out his tongue will scratch it against the nails, and he will soon get out of the ugly habit of hanging it out. If he licks the side of the bit the same plan will answer.

No. 4.—The subjoined is a sketch of a bit which has been recommended as effectual:—You have merely to attach a thin iron

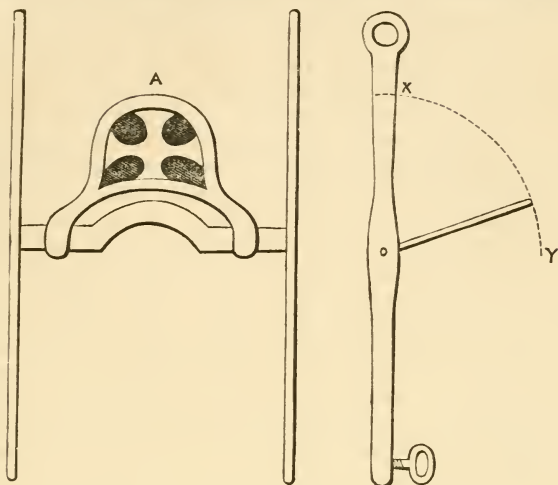


plate to your ordinary double bridle bit, made movable, to lie on the horse's tongue, and move upwards, as shown in dotted line.

No. 5.—The best remedy is a tightly buckled noseband.

HORSE LEANING AWAY FROM THE POLE.

No. 1.—Get a strap buckled to the noseband or bit and reaching to where the trace buckles on on the outside, and tighten to keep the horse's head straight.

No. 2.—Get two buckle-straps made, and buckle them to the inside of the ring snaffles of each horse, then cross them through the hames tenant, from there to the bearing rein tenant on the pad, and fasten there.

HORSES' FEET BALLING WITH SNOW.

Soft soap made with wood ashes is, in Canada West, rubbed on the soles of horses' feet, which causes them immediately to cast the snow therefrom. Let this be done, just preparatory to sleighing, each time that the horses may be shedded during a day's sleigh-ride. Before starting it will be necessary to renew the application of the soft soap, as their standing on warm stable-compost does away with its efficacy.

A useful plan is to use sheet gutta-percha $\frac{1}{8}$ in. thick. To ascertain the right dimensions of the piece required for the fore and hind feet, take a piece of paper and place it on the shoe as it is fixed on the horse's foot; with a pencil, mark on the inside of the paper the size of the inside form of the shoe; cut out the piece of paper, and mark the gutta-percha. Allow $\frac{1}{8}$ in. larger of gutta-percha on each side of the front part to go under the shoe, to keep it from coming out when the horse is at work. Taper the edge of the gutta-percha to facilitate it going under the shoe, and cut out a triangular piece of the gutta-percha so as to prevent an undue pressure on the frog. The gutta-percha may easily be introduced into and taken from the shoe by heating in hot water. Some pour melted suet into the hoof. The best plan is to have three screw-holes in the shoe, one at the apex, and the others at either heel. Steel wedges should be screwed tight into the holes, the shoe and sole being covered by strong leather previously, which the screws will keep in place, proper holes having been made in the leather to admit the screws. You can safely gallop on wet snow, or on the smoothest ice. The groom takes the screws off, and keeps them in his pocket when the horse is in his stable. When they are off, the shoe is only an ordinary one, with three holes in it.

HORSE TO FETCH AND CARRY, TO MAKE.

Tie up a carrot in a handkerchief and when the horse is hungry he will try to get at it, and lift it with his teeth; then open the handkerchief and let him eat the carrot. By constant repetition an intelligent horse will learn to depend upon you for his reward, and will bring the handkerchief to you.

HUNTING BOOTS, CLEANING OF.

To clean enamelled leather hunting boots wash them well, and then rub in a very little neatsfoot oil, and after a few minutes wipe it off the surface. Neatsfoot oil also has the merit of keeping the leather soft.

HUNTING COATS, TO WATERPROOF.

To make a scarlet hunting coat waterproof (or rather water-repellent), procure $\frac{1}{2}$ lb. of powdered alum, $\frac{1}{2}$ lb. sugar of lead, take off the buttons of the coat, steep the "pink" in a tub containing the above ingredients dissolved in 2 quarts or $2\frac{1}{2}$ quarts of water; keep it in for six hours; the longer the better. If dried in the open air it will be better than dried before the fire. The ingredients will take twelve hours dissolving.

Some dissolve the alum and lead in boiling water, and the coat or other garment is dipped in the clear liquor poured off when cold from the white precipitate of sulphate of lead. In waterproofing all kinds of cloth it is as well to do it before making up lest the cloth shrink.

JIBBING HORSES.

No. 1.—Put the horse behind the two first horses in a waggon, when he may be induced to go without any coercion.

No. 2.—Let the horse be ridden down to a field with his harness on, and then yoked to a light bush-harrow; he will draw this about very well with the man on his back; when his shoulders have got well warmed to the work, let him be yoked to a plough or harrow beside another horse, the man still on his back. He will soon take kindly to his work.

No. 3.—Take a cart or light waggon to the middle of a large field, and having harnessed the horse, put him in the shafts, and there leave him, with a boy at a distance to watch him—leave him there till he thinks fit to move; don't give in the first day, but try it on for a few days—of course removing him to the stable in the evening; use no violence, but merely leave him alone in the cart. He will soon get tired of this solitary way of going to work.

No. 4.—Never hit the horse, but ask him to go, and, on refusal, put a head-stall on him, and, with rope enough attached to give the head liberty, fasten to the end a 4st. weight. Place it on the ground, and leave him standing eight hours; then take it off, and ask him to go. Next morning, if he refuse again, repeat the dose.

No. 5.—Before starting, order the groom to be prepared with a few cut carrots in a server. The groom holds them at just sufficient distance from the horse's nose, so that he cannot reach them without moving; and take care that nothing is in the trap, and that the wheels are on tolerably level ground. The groom must continue to move, with the horse's nose in the server, allowing him to eat a few carrots, until you have gained the seat, when a smart touch of the whip will send him into a trot, and the difficulty for the time is overcome. Continue this treatment, the groom each day at starting offering the carrots at a greater distance from the horse, and allowing himself to be overtaken, when the horse must always receive his reward.

No. 6.—Take the horse into a fallow field, and there harness and put him to a heavy cart. If he will not draw, have ready a couple of strong horses, and yoke them to the hind part of the cart, and draw him backwards. Let him have plenty of it.

No. 7.—Persist in backing the horse. If he attempts to rear a breaker's martingale will prevent him.

No. 8.—Place the collar on him an hour or two before he is wanted to work, and lay him up without food or any other amusement.

No. 9.—Wait quietly until he will start. It is often a good plan to turn the horse round, after which he will go off in the right direction. On no account use the whip, or attempt to drag the horse off.

No. 10.—In India the natives often tie a piece of string just above one of the fore knees of the horse, and pull him gently onwards.

LEAPING—TO TEACH A HORSE.

It should always be remembered that jumping is a natural quality in horses. Prefer the double line system, it is less likely to cause refusals. Begin by crossing the lines (common plough lines) under the chin, to the rings of the snaffle bit, and then pick out a small broken-down bank, over which a horse can climb. Put one man on the landing-side with the lines; another man leads the horse up to the fence; and the man with the lines calls to the horse, who in a very short time finds out what is wanted. The lesson is then increased in difficulty, but care must be taken not to render it too long. Begin (and continue for the first four or five days) to jump your horse in hand, and make him a "standing-jumper" before you let him go fast. The best thing at first is a fallen tree; lead him up quite close to it, and let him smell and examine it; then, by a little encouragement from a groom behind, bring him over. He will soon learn to rise quietly, and spring from his haunches. Continue this practice, without more excitement or punishment than is absolutely needed, for half an hour at a time, till he jumps cheerfully and in a well-balanced form. After a while pass on to a low stiff bar (if a "leaping bar," it should be fixed, and covered with furze, and the side posts should not be too high to prevent the rein passing *over* them), but do not continue too long at one bar, and by all means do not raise it *higher and higher* till the horse falls; this is a common and fatal mistake in bar practice. Taking him over a farm, find out suitable fences (not wattle hurdles—they give way easily, and engender carelessness) over which to put him, at one time standing, at another from the trot; taking care to select fences with a fair-sized ditch, and such as are neither blind nor "trappy."

After four or five days' practice in hand, begin to ride him over

the same leaps, commencing with the tree; be patient and gentle, using no more spur than is necessary to make him careful.

A correspondent thus describes the bar used by him:—"I took the trunk of a tree, of a convenient height (selected from a pollard, or some other kind valueless for timber), and well clothed with gorse bound round with 'withy,' or green stews of hazel. The side rails commenced from the ground, and were so made that a leading rein would slip easily over them, as I always began my lessons with a cavesson and rein, thus avoiding weight on the back. The man got the colt well within the side rails to face the fence, and walked on the outside himself. When a greater height was wanted (by no means necessary) short faggots of gorse stood against the tree supplied it, and the fence could be raised to any reasonable extent, as they were bent more or less. I may state that for after practice I had nearly every description of fence made on the same principle (doubles and so forth), that horses could be led over or ridden when they knew their business; and so successful was the practice that young ones in their first season carried me quite as safely, when rightly handled, as made horses. As a hint anent riding at fences, I may say that they always began with no bit in their mouths; and at the double—which consisted of two strong 'stake and bounds,' with a wide ditch on both the rising and landing side, with about six feet between the hedges—I always found that as soon as they knew what it was, though allowed to go quite in their own way, they raced at it full speed, but always doubled it, not one attempting to take it at a fly, though it must have been well within their powers, at any rate not over twenty feet."

Another correspondent thus writes:—"Training an unspoilt horse to jump is a very easy and quick process, but when once he has been allowed to get a bad form, or has been made nervous by spur or violent falls, the work is long and tedious and doubtful. I have found the best system to be this:—Begin at a low stiff bar (fallen tree or narrow dry wall is perhaps the best) in hand, standing; work him backwards and forwards quietly till he collects himself and rises well up in front before springing; then allow him to trot round in hand. Pursue this course without more punishment than is necessary to make him careful, till he will jump a common hurdle in hand without nervousness or carelessness—*i. e.*, till he gathers himself together and gets well up on his trot. Then he may be mounted, and taken over the lower jump; but be satisfied with his doing, in cold blood, low jumps in good form. By this system one can make in a fortnight any promising young horse a much more

clever timber jumper than the majority of two-season hunters. To construct a bar for the purpose, let it be strong and large, with a small iron peg at each end, fitted to rest on iron notches, the notches being fixed on a flat piece of iron, and fastened to the side posts. From one side the bar is firm, which it should be at first when placed low for the horse to jump in hand; on the other side the bar, resting on a notch, will fly out if struck, and yet, being heavy, requires some force to make it fall. The notches or rests for the bar should be at an angle of about 30deg. with the posts. By means of this bar a young horse can soon be made clever at jumping in hand, and so taught to balance himself and jump from his haunches; and also, on the other side, it can be made useful and safe to ride. The side barriers should not be too high or have tops to the uprights, so that a man (with a horse in a line) can run outside and hold the line as the horse takes the bar."

PINK, CLEANING OF.

When a red coat has become spotted apply spirits of turpentine, and when this has evaporated saturate the spot with liquor ammoniæ; or, apply liquor ammoniæ alone diluted with about five times its quantity of water.

PRESERVING HOOFS OF A DEAD HORSE.

First remove the internal parts; this is best done by placing the feet in the centre of a hot manure heap for twenty-four hours, when the hoofs will readily come off. Wash them in a solution of carbolic acid, 1 to 50 of water, then fill them with plaster of Paris, and dry slowly without heat. The hoofs may be mounted as inkstands or snuffboxes, or simply shod, according to fancy.

PULLING HORSES.

Put the curb-chain *inside* the mouth from hook to hook. It is often effectual. To stop a runaway horse, or render the most pulling brute quiet and playful with his bit, get a double-plain snaffle, rather thick and heavy, the joints rather open; cut an old curb-chain in half and let it hang down from the bottom snaffle joint. When the brute offers to pull or bolt, instantly merely drop your hand; of course the curb-chain will drop between his front teeth, and should the beast savage it, he will soon understand the vast difference between pleasure and pain, and in a short time he will play with the very thing he before tried to savage, and in the end become, from a vicious brute, a playful and good-mouthed horse. This plan is

merely a different mode of applying the keys which form a part of every breaker's bit.

REARING HORSES.

There are several remedies for rearing horses. The best we know of is to make them rear on firm turf, and then, slipping off sideways, pull them over backwards. It is, however, a feat requiring some dexterity, and is best left to a professed breaker. Others knock the horse down by a blow between the ears with a stick or a soda-water bottle, which last has also the effect of frightening the horse by the deluge of water.

A correspondent thus details his experiences with a confirmed rearer and kicker. He says: "He was brought out into a soft meadow, and then put into a cart—to which he seemed to have no objection—but the instant it was proposed to move he commenced kicking in first-rate style, which I stopped with some difficulty by holding his head up. His near foreleg was then strapped up *à la* Rarey, with a stirrup-leather—which is as good a thing for the purpose as can be found—and a long rope fastened to the snaffle on the off-side and brought under the pad to the near; he was urged to move on, made an abortive attempt to kick, and then reared perpendicularly, when with the rope I brought him over backwards (cart and all), and, before he could recover himself, clapped hobbles on him, drew him all up in a heap, and so left him for twenty minutes. At the end of that time I loosed him, and let him stand for a time to stretch himself, and then into harness again; when a ditto of the above scene was repeated, except on this occasion, after tying up, I sat on him, and patted him, and talked to him, &c., but kept him a little longer (say half an hour) in *duresse*, and then into harness again, when he drew about a hundred yards, and stopped to kick—but having the long rope before spoken of attached to his off-fetlock, I drew his leg up by main force, which stopped his kicking; and, having done so, I strapped his leg up, and tried to make him draw on three. This time he did not attempt to rear, but made twenty or thirty of the most terrific plunges forward. I stopped him by hanging on to the rope when he was in the air, and so bringing him down on his nose—a regular cropper! when he was again tied up for half an hour. From this time his struggles got weaker, but I kept at him all day, and by evening he drew the cart loaded. The following day the fight recommenced, but he was much more easily subdued; and that evening I put a saddle on him, and rode him five miles."

Again: Get a penny slip (that is, a thin cord, with a noose at

one end), and when the horse is ready harnessed, put it into his mouth with the bit, bring one end over the head behind the ears, run the loose end through the loop, and draw it quite tight—not so tight, however, as would be necessary to make him stand still; you will have no difficulty in preventing his rearing or twisting. Slacken and withdraw it when he is in the shafts. A few such lessons will, it is said, effectually cure him of the habit.

Or, put an old set of harness on him, and before you take him near the carriage he is to be put to, strap his near foreleg up *à la Rarey*, and let him walk to it on three legs. If this does not succeed, have a strap fastened from the off fore-fetlock through the ring of the driving saddle, and when he rears pull the strap and let him come down upon his nose. Use him very quietly, but be determined and firm, and, of course, operate on soft ground to prevent broken knees.

Again: Treat the horse kindly and quietly, use an easy straight curb-bit, taking off the curb, and buckle the reins on the cheek. Harness the horse quietly, lead it out and place it before the trap, in an open space, without being held; lift up the shafts and draw the trap carefully on, taking care to place the reins so that they can be easily taken in hand without interfering with the animal's mouth, or permitting it to know the reins have been touched, then step quickly, but quietly, into the trap, leaving the horse's head free, to start when and as it pleases, and do not check it suddenly, but feel its mouth with a light touch and restrain it in the most gentle and gradual manner to a walk, which continue until it is perfectly settled, with the reins as loose as possible.

SHOEING HORSES.

Mr. W. Miller, in "A Plain Treatise on Horse Shoeing," says: "You must begin by taking off one of the old shoes, the other should always be left on, for the horse to stand upon; he is sure to stand quieter upon a shod foot than he can upon a bare one; and it will prevent it breaking the crust. Raise every one of the clenches with the buffer, and, if the shoe will not then come off easily, loosen some of the nails with the punch; but never tear the shoe off by main force; it splits the crust, and widens the nail holes. The shoe being off, you should rasp the edge of the hoof all round, and take out any stubs that may be left in the crust. Then you must pare out the foot. If the horse has a strong, upright foot, with plenty of horn, you should shorten the toe, lower the heels and crust, and cut out the dead horn from the sole, and also from the

corners between the heels and the bars ; the best way of doing this is to pare the bars down nearly even with the sole, and then you can get at the dead horn in the corners more easily. On no account ever cut anything away from the sides of the bars, or, what is called, 'open out the heels ;' and be sure that you never touch the frog with a knife. A weak, flat foot will bear very little paring or rasping ; the crust of such a foot is sure to be thin at the toe, low at the heels, and the sole thin and weak ; therefore the less you do to it the better, beyond getting rid of the little dead horn there may be, and making the crust level where it is to bear upon the shoe ; this must be done to all feet ; and, as the inner quarter, where there should be no nails, does not wear away as fast as the outer quarter, where the nails are driven, you should always place a rasp upon its edge across the foot, to be quite sure that the two sides are level. Before you pare out a foot you should always think of the state of the roads, and if they are dry and covered with loose stones, or have been lately repaired, you should take very little off the sole of any foot, because, if you thin it, the stones will bruise it ; but when the season is wet, and the stones worn in, you may pare out the sole of a strong foot, until it will yield to hard pressure from your thumbs ; but you must never pare it thin enough to yield to light pressure."

Horses should be shod every three weeks if they have regular work.

The immediate application of tar, or some similar material, to the newly-cut surface would at once arrest the escape of the fluids and preserve the elasticity of the horn. It is quite possible to err on the side of caution in the use of the knife ; a certain quantity of horny matter must be removed, or the toes will either become too long or the feet too upright, and the animal will move with an imperfect and stumbling action. When the hoof has been properly prepared by cutting and rasping, the shoe is usually applied while hot, and held sufficiently long and with enough pressure to burn a seating. The advantages of this method are obvious : the adaptation of the shoe to the foot is thus rendered perfect, and the effect of the heat is to make the part of the crust with which the shoe is in contact soft and elastic for the time, and thus facilitate the driving of the nails. The fewer the nails used the better. As much as possible of the posterior part of the foot should be left unfettered. Some horse owners contend that three nails are amply sufficient, but in ordinary practice six will be found to be the minimum number. Horses frequently stumble through bad shoeing, in that case keep the heels up and shorten the toes, have less taken off the heels, and

when the shoe is about to be fixed on the foot, have a piece taken out at the toe for the clip to get into, so that when the shoe is fixed the hoof shall project over the shoe at the toe about a quarter to five-sixteenths of an inch, then have the hoof rasped to the shoe in a rounded form.

Shoeing Restive Horses.—No. 1.—Try dressing the blacksmith in groom's clothes, and shoeing at home instead of taking the animal to the blacksmith's shop. Put a collar on, then fasten a waggon-rope to it, and passing it round the hind fetlock, make the other end fast also to the collar; the horse may be blindfolded.

No. 2.—Let the smith undergo a thorough ablution, especially his hair, &c., put on his wife's garments, and a pair of list shoes; take a pair of light clean-holed fore shoes in separate pockets, with nails ready pointed (no knife, rasp, or anything that smells or sounds like the forge), and a wooden mallet, *pro* hammer. Be sure the nails are pointed and ready; and after walking the horse about a few turns, he can get one shoe on and then the other. Once done always done. The point is to avoid the smell and noise.

No. 3.—Let some one ride the horse into a building not the forge, and remain mounted during the shoeing. The horse will often remain quiet.

TOPS, CLEANING.

The following is said to be a good recipe for brown tops:— $\frac{1}{2}$ oz. alkali root, 2oz. cream of tartar, 1oz. oxalic acid, 1oz. salt of sorrel. 1oz. best rhubarb, mixed with a quart of boiling water. When the tops are dry, polish them with a hard clean brush. Scour previously with 2oz. oxalic acid in a quart of water.

STABLE MANAGEMENT.

AMMONIA IN STABLES.

No. 1.—To prevent injury to the eyes of horses from the ammonia arising from urine, procure a quantity of granulated or powdered peat-charcoal. Moreover, the intermixture forms a most valuable manure, and will amply repay the expense of the trivial alteration which it will be expedient, but not indispensable, to make, by excavating the centre and end of the stall to a depth of about twelve inches, and partly filling up the excavation with the charcoal (the communication from the centre to the end being by a simple drain), which will entirely absorb and deodorise the gas.

No. 2.—Keep in the stable a couple of pans filled with diluted hydrochloric acid, and all the ammonia will be absorbed as it is given off.

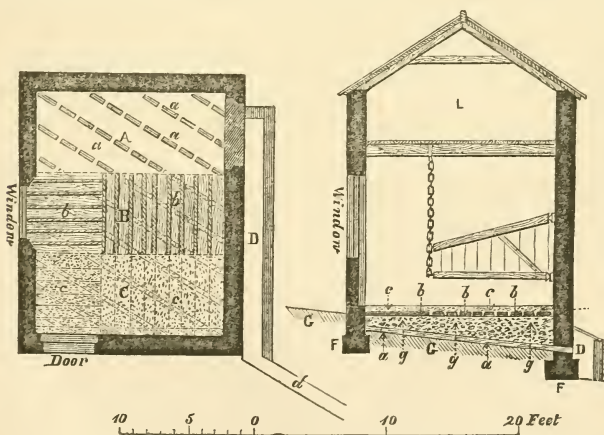
BEDS OF HORSES.

Some persons have advocated sawdust as a good bedding for horses, it lasts good a long time, is cheap, and is fairly good manure. Some recommend tan; this is also a good manure for heavy land. The following is the best way of using sawdust:—

Lay a substratum of sawdust, say two inches deep, and above that lay less than half the usual quantity of straw; rake twice a day, or oftener, so much of the sawdust as is wetted, and clean the whole of it out once a fortnight, or thereabouts. The sawdust absorbs the urine, and very little of the straw is so wet or dirty as to make it necessary to throw it out. One fatal objection to the use of sawdust without straw is that the horses' feet get packed with the sawdust, and this makes them hot and uncomfortable.

Sawdust is best used in summer, and the horses' feet should be picked out night and morning. It is as well to thoroughly clean the beds every two or three days by raking and turning them. Stains upon white horses from sawdust are rather troublesome to get out.

A correspondent, under the signature of "Rolf," sends the following plan for stables to take sawdust for bedding:—"I inclose a slight sketch of a three-stalled stable, showing the floor in the various



stages of construction at A, B, and C. D d is the main drain, F the foundation, G the surface of the ground, and L the hayloft. When the foundations have been laid all round I shall clear the whole

space inside of them to the depth of a foot or so, preserving the natural fall of the ground, if it has any. If not, the surface may be made to slope in any direction that is most convenient. On this surface I shall lay rows, about two feet apart, of ordinary draining tiles (*a*), so as to carry water off to the main drain, D. This drain may be either built with bricks, or made of large tile pipes, and may be either inside or outside the building. But if it is outside as shown, and covered only by a light board, it will give facilities for clearing the small drains now and then with a long iron rod; and if the board be left off in summer, some amount of ventilation and coolness will be secured below the horses' feet. If it is intended to have ordinary stall divisions, the foundations for their posts must be laid at this stage; but I am more in favour of a small log or two hung from the roof by a chain, as is sometimes done in large stables, and is quite sufficient for all but very vicious horses.

"Above the small tiles I shall lay gravel or ashes (*g*), about a foot deep, commencing with some about the size of ordinary road metal, about six inches deep, and gradually reducing it in size until the top is levelled all over with some about the size of beans. On the top of this level surface of gravel rough slabs of wood (*b*) are to be laid — 'outsides' from a saw mill are the best for the purpose. They should be laid at right angles to the position of the horse while standing in his stall, and in passing to it, which will give him better footing if at any time they chance to become uncovered."

Upon these boards I shall lay the sawdust (*c*), three inches deep at first, but as it is added to every day, it will soon be much deeper, until it is thought necessary to clear the whole of it out and begin again.

Tan Beds.—In using this material, spread it about six inches thick and remove the dung occasionally. Tan will last for months in a yard; but in a loose box it becomes saturated with the salts of the urine, and should be changed every month or six weeks.

BITS AND BITTING HORSES.

The following admirable description we extract from the *Field*: — "The breaking snaffle is usually a large, smooth mouthpiece jointed in the middle, with keys attached to the centre of it for the young horse to play with, so that he may keep his mouth moist, a very necessary point. With a breaking snaffle it is always advisable to have a martingal, as it gives the rider more control over the young horse, and prevents him getting his head into bad positions. The breaking snaffle should always be large and

smooth in the mouthpiece, as then it is not so likely to injure the young horse's jaws or lips as a sharp twisted one. The plain smooth snaffle differs from the breaking bit in being smaller in the mouthpiece, and having no keys attached to the centre of it. It is generally used for exercising and racing purposes. It is well to have the mouthpiece of a good thickness for ordinary purposes—of course for racing it must be made thin.

"We next come to the twisted snaffle. Many horses go very well in this that are difficult to ride in a double bridle, on account of the objection they have to the curb chain, which irritates them and causes them to pull, which they do not when ridden with this bit. The mouthpiece should be tolerably thick and the twist not too sharp, as, if it is sharp, it is liable to cut the angles of the mouth. There is another capital bit, suitable for the same sort of horse as the twisted snaffle, the mouthpiece of which is made of a curb chain with good-sized links. It is very much used for racing; it is an excellent bit for a horse that pulls very hard, and it can be made to act very severely by working it from side to side in the horse's mouth. There are other sorts of snaffles, such as ring snaffles, very much the same as are used in driving. There are also snaffles with double mouthpieces of various forms. The gag snaffle is made of the mouthpiece of an ordinary snaffle, either smooth or twisted, with a ring at each end, through which the headstall of the bridle, which is stitched in a rounded form, runs freely. Gags are sometimes made with two rings at each end for the headstall to pass through, but it is better to have only one ring, as then they work more easily. Gags should never be used alone, but with either another snaffle or a curb bit, and then they should be brought into use only when actually required. They are most excellent bits for bad-mouthed horses, especially if they are inclined to get their heads down—they give the rider great power to stop a horse just when he wants.

"I have come to curb-bits. They, except for military riding or hacking, are seldom used alone, but are combined with one or other of the different sorts of snaffles described. An ordinary curb-bit is formed in this way of a mouthpiece, which is made in various shapes, placed at right angles to, and connecting two uprights, which are called the cheeks. The upper cheek is made shorter than the lower one; to the upper one is fastened the headstall, and to the ring of the lower the reins; to the top of each upper cheek is fastened a spring hook, to which the curb-chain is attached which passes under the horse's lower jaw; and on the tightness of this, the length of the lower cheek, and the shape of the mouthpiece, depend

the severity and power of the bit. A lip-strap should connect the two lower cheeks of the bit, passing through the ring that hangs from the centre of the curb-chain, in order to prevent the horse getting the bit into his mouth, and to prevent the curb-chain getting out of its proper place if put on loose. An ordinary curb-bit is seldom used alone, except in the case of the Hanoverian bit, but is always combined with a snaffle or bridoon of some sort or other. The Hanoverian bit is made with ornamental works on the cheeks, and the mouthpiece is furnished with a high centre or port, and is covered with rollers; the different parts of it are also made moveable. It is a very severe bit, but does very well for the purposes for which it is generally used. The Chifney is another very severe one, the curb chain acting with greater power in this bit than in any other. It is very suitable for ladies to ride with, or for very hard pulling horses, as by its leverage it gives great power to the rider, but requires very nice handling. The severer the bits are in their action, the greater care they require in their use. The Segundo is another sort of curb-bit used for hard-mouthed pulling horses, and is made with a high moveable port. There is another bit that is a good deal used in the hunting field, and a very good one; the mouthpiece of it slides up and down a short distance on the cheeks; it is called the Dunchurch.

“For most horses that have their heads well placed, and are temperate, with good mouths, the best bit is a plain smooth curb and snaffle, or bit and bridoon, as they are generally called—not too long in the lower cheek, and with a low port; the mouthpiece of the bridoon should be of a good size. This is the bit in general use, and suits more horses than any other. But when you get horses who carry their heads too high or too low, or are very determined pullers, or very irritable, it is then requisite to bit them differently. Ewe-necked horses, that get their heads up are about the most difficult of any to ride to hounds. They generally go best with a snaffle, either smooth or twisted. A curb-chain snaffle is very useful with this sort of horse, and a martingal, or else quite a plain double bridle. As a general rule they cannot bear to have their heads interfered with, especially at a fence. Many horses pull very hard if ridden in severe bits and with tight curb chains, that do not pull much in snaffles or light double bridles with tolerably loose curb chains. But for determined pullers, with hard, bad mouths, it is well to use a bridoon and Segundo or Chifney, or, at any rate, a bit with cheeks sufficiently long to give a good amount of power to the rider. For a bad-mouthed horse, especially one that is inclined to get his

head down, and that pulls, or is difficult to stop just at the moment you want, there is nothing like a gag, either used with a plain or twisted snaffle, or a curb-bit. Gags are sometimes made like an ordinary bridoon, but with holes in the ring of the bridoon for the gag-rein to pass through; but it is much better to have the gag made so as to be used solely as a gag, and not as a bridoon as well.

"I am a great advocate for the use of nosebands, especially with young horses, or awkward-mouthed ones; if they get their mouths wide open, the bit cannot have the proper effect, but the use of a noseband precludes the possibility of their getting their mouths open and acquiring such habits as getting the cheeks of the bit in their mouths, and locking their jaws, as some horses will do. Nosebands ought to be put on sufficiently tight to prevent the horse getting his mouth open, and not too low down; some horses require them much tighter than others. A great number of hard pullers are apt to get their mouths open, and a tight noseband prevents them doing this, and when they cannot do this they ride pleasantly without pulling.

"Martingals ought only to be used by experienced horsemen, and in riding a horse over fences with a martingal a good deal of care is required to give and take with the martingal rein, so as not to check the horse when he makes his effort to jump. When a martingal is used on any rein it is always advisable to have the reins stitched to the bit, as then there is no buckle to catch the ring of the martingal, and the buckle should be placed in the centre of the rein, so as to admit of the martingal being put on. Care should be taken not to put them on too short; as a general rule, when a horse holds himself up, the ring of the martingal should reach up to the bend of his neck in his jowl. As to putting on bits, the cavalry regulation is, that 'the bridoon is to touch the corners of the mouth, but low enough not to wrinkle them; the bit is to be placed in the horse's mouth, so that the mouthpiece be one inch above the lower tusk, and two inches above the corner tooth in mares.'

"The curb chain should not be put on the same for all horses, some light-mouthed horses being very much irritated by a tight curb, and others requiring a tight one to hold them; the links of the curb chain should be of a good size, as little narrow ones are more apt to cut the underneath part of the horse's jaw than good sized ones; and if a horse pulls very hard it is as well to have a piece of leather between his jaws and the chain. It is always as well, when buying a horse, to run your hand under his jaw to feel whether there is a lump there formed by the pressure of the curb-chain; if there is, you may be pretty sure that he is a hard puller.

“Dealers generally put long-cheeked bits on their horses when they show them off, as these force them to bend themselves more than light easy bits. They should always be made of steel, and it looks best to have both the reins and headstall stitched on to the bit, and not fastened with buckles.”

BREAKING HORSES.

A colt, when it is intended to house him, should be gradually brought off grass by shutting him up nightly, but turning out during the day, and by gradually reducing the hours he is allowed to spend out of doors. In taking him from his box to his paddock every day put a snaffle bit into his mouth, when he is permanently located in his stable bit him for an hour a day. Handling is the chief thing to be observed in breaking, as horses are nearly always amenable to kind and gentle treatment, but generally prove refractory if suddenly bitted and lunged. Corn should be allowed sparingly at first, half a feed twice a day, and this gradually increased in two months to three feeds a day with sufficient hay and six or seven moderate sized carrots.

CLIPPING REFRACTORY HORSES.

No. 1.—Let the refractory animal be turned in his stall, and attach the pillar reins to his head collar, so that he cannot turn round. Then either clip or singe another horse before him.

No. 2.—Tie up the foreleg of the horse, it will keep him quiet whilst being clipped. Put a surcingle round him, and run a leather strap attached to the fetlock through the surcingle; let a groom hold the strap so that if the horse *will* plunge he can slack it, and thus save a fall.

No. 3.—Take an ordinary corn sack, and cut a small hole in one corner; put the halter rope through the mouth of the sack and the said hole, then coax the sack over the horse's head and ears, and tie a string round his neck to keep all fast. This will make any horse quite cowed and stupid, and he will not resist anything that gives no actual pain.

No. 4.—Always begin to clip the horse on the ribs (near side), as being the least sensitive part, and gradually work to the most ticklish parts, such as the flanks and inside the thighs. If the horse prove troublesome, take up the near fore leg, bring the heel of the foot up close to the arm with the right hand, and steady the horse's head with the left hand. Should this plan not prove successful have recourse to the twitch, which place on the upper lip of the

horse sufficiently tight to prevent its coming off, and not too tight to cause unnecessary pain. The assistant then holds the twitch in one hand and the leg in the other, always taking care not to allow the twitch stick to strike against anything, as that will cause great sensation to the horse, and probably make him rear and wage war with you. While the twitch is on always be as expert as possible, and finish the flanks and inside the thighs, &c., then at once commence at the head, having first placed a strap two feet in length, with a billet and buckle at each end, round each fetlock; this will prevent the horse from striking you with either of the fore feet while clipping his head. Begin at the cheeks and work gradually towards the ears, which are generally most troublesome to clip; the assistant then takes hold of the tip of the ear, and pulls it out straight, while you clip it, holding the twitch in the other hand at the same time. Always treat the horse quietly, and in time he will yield when he finds you have no intention to injure him. Care must be taken not to allow the twitch to slip off the lip, as it may cause great trouble to replace it. If the head require to be singed after clipping, do it before removing the twitch.

FEET, MANAGEMENT OF.

An able correspondent of the *Field* thus writes on this important subject. He says: "Sick horses habitually maintain the standing position, and this in itself is injurious to the feet, which require to be carefully watched and frequently examined during the progress of any constitutional disease. If any unusual warmth is detected in the feet of a horse suffering from influenza, or bronchitis, or other disease bordering upon the inflammatory, immediate action must be taken, or an attack of fever in the feet is inevitable. The first thing to do is to remove the shoes and well pare out the soles, after which the feet may be soaked in warm water, and then covered with warm poultices of bran and linseed-meal, and kept moist by being occasionally dipped in warm water. Should this treatment not be found sufficiently active, bleeding from the toe will be necessary; and the warm applications must be continued. In any case, when a horse has been ill for some time, it is desirable to remove the shoes and well clean out the feet, using tar dressings occasionally, and, if necessary, applying wet swabs, at least during the day, when they can be kept wet. When the disease from which the animal suffers is likely to be followed by a long period of convalescence, it is good practice to remove the shoes altogether after the first fortnight or three weeks, and allow the horse to 'lie

rough,' taking care that there is a sufficient covering of litter—or what is better, tan—upon the floor of the box, to prevent the hoofs being broken.

“When the presence of some local affection renders it undesirable to exercise the animal, the feet, again, are likely to suffer from inattention; and, in addition, it may happen that one foot is compelled to support an undue share of the weight of the body, in consequence of the disease in the opposite limb preventing the proper exercise of its function. In this case it becomes necessary to arrange the shoes so as to equalize the pressure as much as possible. This may often be done by putting a high-heeled shoe on the foot of the diseased extremity, while the shoe is either removed from the other foot, or reduced to a mere tip.

“In cases of disease affecting the feet, very great care in the treatment of these organs, irrespective of the medical or surgical means employed, will be called for. Many cases of disease of the foot are incurable, and the horse can only be kept in working condition by means of palliative measures. These principally consist in keeping the feet cool, carefully removing all foreign bodies which might injuriously press upon a tender sole, preserving the pliability of the horn, and adjusting the shoe in such a manner as to afford protection and avoid pressure upon parts which are not capable of supporting it. The most simple plan of keeping the feet cool and moist is by means of wet swabs tied round the coronet.

“During the time that animals are under treatment for foot-lameness, it must be recollected that the hoofs are still growing, and that if left for a long period untouched it will be difficult to get them into proper shape again. Therefore the attention of the farrier should be called to them at least once every month or six weeks, in order that the heels may be lowered and the toes shortened; otherwise, in consequence of the rapidity of the growth of the horn, the feet will become upright, and the frogs, being removed thus from pressure, and kept in constant contact with the wet manure which accumulates in the feet, will become rotten. The use of tar both to the wall and sole is as necessary while the horse is lying idle as when he is employed in active service; even when he is turned out to grass the feet require attention, particularly when the ground is soft and wet. The difficulty under such circumstances is to get the hoof to grow in the right direction; there will be plenty of material formed, but it will require frequent trimming and training or the very luxuriance of the growth will be a source of embarrassment.”

GROOMING, HINTS ON.

Six in the morning is a proper time to go to stable, and half-past eight in the evening the time of shutting up the stables.

To feed and water hunters, clean out the stable in the intermediate time, and perform other routine details preparatory to going out to exercise, will take upwards of an hour; and for horses going out to do a day's work, fully two hours should be allowed for the preparatory process from the time they are first fed.

Exercise required for hunters consists almost wholly of walking. Two hours' walking is enough for any horse at a time in the way of exercise, in which period the horse will go over nearly nine miles of ground: in the special cases where it is judged that more exercise is required, alter the pace, and give the horses a steady trot for two miles rather than keep them out longer; and at times during long frosts, when going on a straw bed, it may be more convenient, and better for the horses to divide their exercise, when two and a half to three hours may be apportioned between the morning and afternoon.

Good feet require but little care beyond proper littering down. Horses should not be allowed to stand on bare bricks, neither should large beds be under them during the day. In the early morning the bed must be removed, and the floor sprinkled with short litter. Of the two evils, that of standing the fetlock in deep straw is the worst, and should never be permitted, as it induces inflammation of the feet, and often produces thrushes.

All horses' feet should be regularly washed once a day, whether they go out to work or not, with tepid water: it is very refreshing to them, and insures both cleanliness and a careful inspection of the feet and shoes. There is no harm likely to arise from washing the legs when they are cool, providing they are well dried afterwards.

On nights previous to horses being shod, especially if they have been standing long in the stall, stop the fore feet with cow dung or wet clay, or a mixture of the two; but this is to be deprecated as an everyday practice, for it often induces disease which is the forerunner of thrushes.

Shoes should never be allowed to remain on more than a month, even if they are not worn out, as loose flakes of sole require removal, and the forward growth of the wall carries the shoe, and with it the foot, out of its proper position in relation to the limb above.

The Morning's Work.

The groom should enter the stable at six a.m., give each horse six or eight swallows of water, then a single handful of hay.

Whilst the horse is discussing this, the dung should be taken up and carried away, and then the clean straw should be carefully picked out and thrown under the manger, removing the wet and dirty litter to the dung-heap.

Sweep the pavement quite clean ; give each horse three parts of a pail of water (which water should have been left in pails in the stable the previous night, in order that it might acquire the temperature, or nearly so, of the stable) ; shake down a portion of the litter under the horse, and then proceed

To Dress the Horse.

Turn the horse round in the stall with a common halter on, well brush his head with the horsebrush, to get all the dust and dirt out ; then well wisp it with a damp wisp, and finish with a rubber.

Turn the horse back in the stall, replace the head collar, and rack his head up ; take off the clothing, carry it outside the stable and shake all the dust out of it, and then hang it up to air.

With the horsebrush in the left hand and currycomb in the right, next proceed to give the horse a vigorous brushing, beginning on the near side with the neck, and so on all over him.

If the horse is sweaty from the previous day's work, the currycomb must be used to raise the hairs and loosen the dirt in places where the sweat and dirt have matted the hairs together—the principal use of the currycomb being to clean the dust out of the horsebrush, by drawing it backwards and forwards several times every now and then.

In using the brush, it should be passed across the direction in which the coat lies ; but the last few strokes must be in the same direction as the hair lies, in order to make the coat lie smooth.

After all the dirt is got out, go over him with a damp wisp, using plenty of elbow grease ; this will remove any dust left by the brush, and will also polish the hairs.

Finish with a clean rubber ; then put the clothes on, throwing them well forward, and drawing them back into their place, in the direction in which his coat lies, so as to smooth down every hair.

With a picker, next remove the dirt out of his feet into the dung-basket, which should be placed under each foot as it is taken up, so that the dirt will fall at once into the basket, thus obviating the necessity of the stall being swept again.

When all the feet have been picked out, take up the near forefoot, place under it a pail, and with a water-brush wash out each foot in

rotation, the pail catching the dirt and water, and so not damping the pavement in the least.

After this is completed, brush out the mane and tail; give the horse his morning feed of corn, and unrack his head; then shake down a thin coat of clean straw all over the stall, squaring it off behind if no plait is used, though a nice plait gives a very neat appearance to a stable.

If the horse's quarters are wet and stained through lying down on wet litter or dung, the stains must be got out with a damp sponge—not wetting the horse more than is necessary—and brushing out the marks of the sponge when the horse's quarters are dry, as they will be when the groom returns from breakfast, the hour for which will by this time have arrived.

Mid-day Management.

If the horse is wanted to go out by ten or eleven o'clock, the groom may give him a little hay on his return from breakfast.

If not ordered until two or three o'clock, the horse may have about 5lb. of hay, then at eleven half a pail of water, at twelve a feed of corn.

If not wanted at all that day, he must go to exercise, either about ten or else at three o'clock.

At four he may have 4lb. of hay; and at five as much water as he will drink.

At six a feed of corn should be given, and the remaining allowance of hay placed in the rack; and having had his bed shook up under him, he may then be left for the night.

If the horse goes to exercise only, he must be stripped and dressed over about four o'clock—that is, whilst he is eating his afternoon allowance of hay. Of course he will require to have his feet washed out on his return from exercise.

The Return from Work.

If the weather is wet and dirty, the horse should be placed in an empty stall or box (not in the one usually occupied by him), and stripped of harness, saddle, &c.

With a scraper, remove all the wet and dirt from his belly and legs; well wisp him with a straw wisp; pick his feet and wash them clean, throwing a cloth over him whilst the latter operation is going on.

If his ears are wet or cold, they must be dried with a rubber, and well pulled until quite warm. To do this, the man must stand in

front of and facing the horse, and, taking an ear in each hand, close to the root of the ear, commence by drawing his right hand down the ear, the same with the left. Whilst the left hand is passing down the ear the right must grasp the other ear, and so on, pulling each ear alternately.

The horse can then be taken to his own stall, and have four or five swallows of chilled water, and fed.

When sufficiently dry to enable the man to do so, he must, with a dandy-brush, go over the horse, and remove all dirt which the scraper failed to take off; after which the horse may be treated according to the routine before stated as to be followed on his return from exercise.

If the horse comes in at five or six o'clock, this will be all that is necessary to do to him that day; but should he arrive at home two or three hours earlier, he should when dry get a thorough dressing.

HORSE ENTER A STABLE, TO MAKE A.

Take off the bridle and put on a halter whilst outside, and, holding a sieve of corn, let the horse eat a mouthful or two; then recede gradually into the stable, letting him feed a little at each step; by patiently pursuing this plan the animal will soon follow quietly into his stall. Force should by no means be attempted, or the fault will be increased.

A correspondent writes: "I have a horse which has this disagreeable habit. There is only one means by which I can induce her to enter or leave her stable, and that is by gently laying hold of her ear. She will then follow me without any further trouble. If this should fail I would recommend a coach-house or barn with a very high door, when after some time he will most probably forget his troublesome trick."

HORSES SCRAPING THEIR BEDS.

A plan of preventing horses from scraping the litter from under them with their fore-feet is by the use of hobbles, commonly adopted, especially with young horses, in training stables. They consist of two straps, lined and connected with each other by a chain about fifteen inches long. The straps are buckled round the pasterns, and prevent a horse from pawing the litter with one foot.

Some say that if you put the horse into a box, of which the floor is laid with asphalte, so as to fall all four ways to the middle where the drain is; he seldom moves the straw.

Try dry sea-sand. It only requires raking over twice a day, and

the wet taken away, and renewing altogether about once in ten days. Troublesome horses may be kept very much quieter by bedding them up with plenty of clean straw every night, which hampers their legs and shackles them as it were, and the straw can be used again in another box.

HORSE TEARING OFF HIS SHEETS.

Drill a hole through a stout piece of ash at each end, fasten one end tight to the roller, and attach a foot of stout leather strap to the other end. This strap fasten to the head collar.

KICKING IN THE STABLE.

If a horse appears to kick in the stable from a merely vicious propensity, tie a truss of straw behind him, suspended from the ceiling by a cord, in order to give it full swing—letting the truss hang in a position where the horse's leg is likely to hit it. The only precaution to be recommended is to put on a pair of knee-caps, as, when struck by the return of the straw, horses are generally so terrified that they spring forwards or upwards, and might injure the knees against the manger. In a stable kept too hot, warm clothing is often a cause of kicking.

Again, place the horse in a box 12ft. wide, with a double shank to his collar, and two posts, about from four to five feet asunder, fastened well in the ground and to the ceiling, and placed behind the shoulders at either side. The horse can lie down at pleasure, but cannot reach the wall or stall at either side in kicking.

Or, have a ring in the roller, well fastened on, which will be exactly in the middle when the roller is on the horse; have a piece of rope (the rope must be just long enough to allow the horse to walk comfortably) with a shackle at each end; the rope passes through the ring on the roller and the shackles, one on each hind pastern; this does not prevent the horse walking, as it simply passes through the ring, but it not only renders it impossible for the horse to kick, but very soon cures the habit.

Another method is the following: a driving-bit and curb are put on with leather straps running through two loops underneath the roller, and fastened with broad web straps to the fetlocks. They should be worn for a month. The horse can lie down with them, and never require them after. The straps are fastened to the lowest bar of the driving-bit.

If a loose box does not answer, hobbling the hind legs is the only resource; sometimes a large bundle of furze on each stall post will

act as a warning to the animal after he has tried one or two experiments. This, however, irritates some horses, and makes them worse.

Put upon them the common hobble used for brood mares. It does not prevent their moving about, or getting up and down; and if it slips from between the fore-legs, in the horses rolling or otherwise, it does not matter. Prefer padded straps with buckles for that part which goes round the hind fetlocks to slip-knots, as being less likely to chafe the skin; and it is well to buckle them the first few times alternately above and below the fetlock, to vary the part rubbed.

A wooden ball suspended to a strap round the leg above the fetlock will stop almost any horse in consequence of the pain given by the blow on the leg which the loose ball gives. With very inveterate kickers a strap may be buckled round the fetlock and carried through a surcingle up to the head-stall. This soon tires any horse.

Some advise that bladders should be fastened round the box.

A few links of a heavy chain, or a ball and short chain buckled above the fetlock, will generally stop horses from kicking in the stable.

LADIES' HORSES, MANAGEMENT OF.

Ladies' horses should be exercised by the groom every day, taking care that he rides with a large plain snaffle, so as not to injure their mouths. They cannot be made to look well without good feeding (say at least three quarterns of oats daily), and if they have this amount of corn they ought to have from two to three hours' walking exercise every day, which is better given on turf to keep their legs and feet fresh. If this time cannot be allowed, they may be steadily trotted for an hour, and walked for half an hour.

LOOSE BOX, SIZE OF.

The area of a loose box should not be less for hunters than 120ft., *i.e.*, 13ft. or 14ft. long by 8ft. 6in. to 9ft. broad. Of course for a very large horse it should be longer; for a horse above 16 hands make the length 16ft.

MANAGEMENT OF HORSES.

The outward signs of health are the following: When the horse eats a moderate allowance of hay and corn with good but not ravenous appetite; when he drinks a moderate allowance of water; when his coat lies smooth, and feels soft and smooth to the hand; and when his exercise does not produce faintness, but rather stimulates his appetite. The ventilation of a stable is the most important

point. Feeding is a matter of opinion. Three or four feeds of corn a day, with a few beans, and a moderate allowance of hay, is quite sufficient for a horse doing moderate London work. The usual allowance for a horse is : Corn, 1 peck per day, which makes three or four feeds ; hay, $1\frac{1}{2}$ trusses a week ; straw, 2 trusses a week ; and a warm bran mash twice a week in the place of a feed of corn. Grooming is of the greatest consequence ; for, by removing the dirt from the skin, you allow the animal to perspire freely, thus saving the kidneys from unnecessary labour. Good food, pure air, and cleanliness are the great secrets of health.

MANAGEMENT OF HUNTERS.

We will first consider the treatment of the horse who has just finished a season's hunting, and is required for gentle hack or draft work through the summer. When his last day's hunting is over prepare him by bran mashes for physic ; put him in a roomy loose box, and give him four or five drachms of aloes, take off his shoes, and give him, when the medicine has acted, two small feeds of corn (4lb.), and 8lb. of hay a-day ; no exercise. About the beginning of May, for a fortnight, give him only 4lb. of hay, making up the rest with green meat (clover, &c.)

In the middle of May leave off the green forage, and gradually increase his corn to 10lb. and his hay to 12lb. by the first week in June, during which time give him gentle walking exercise, gradually increasing from the middle of May to the first week in June to two hours a day, when he will be in a fit condition to do gentle hacking or draft work, which can be gradually increased, and he will be all the better for the six to eight weeks' rest he has had. Whilst in the loosebox his feet should be looked to and pared out occasionally, and he should have one good grooming a-day. Unless overworked he will derive no harm from being used during the months of July, August, and September.

On the 1st of October begin to prepare him for the hunting season by (if necessary) giving him four or five doses of aloes, then two to three hours' walking exercise for a week. The second week in October give him one hour's walking, then one hour's gentle trotting, then one hour's walking exercise daily ; by the end of the second week in October his coat will have set ; he may then be singed or clipped. (Great care should be taken that he should be kept warm, and not subject to sudden chills during the latter part of September and the beginning of October, as his coat is then changing, and it will all depend upon this as to what sort of a winter coat

he will have.) After singeing he should be washed all over with lukewarm water, and well dried; the next day give him a gentle sweat by trotting him gently for about one hour, with a couple of suits of clothing on, and hoods, &c. Walk him home, and scrape him; foment his legs, and put on flannel bandages; give him some gruel, wisp him dry, put on dry clothing, take the bandages off, and hand-rub his legs; give him his feed, and leave him for the night. During the third week exercise him the same as the second week, and at the end give him another sweat, but more severe than the last—viz., walk him for a short time, then trot him gently for half an hour, and finish up by a long steady canter about four miles, ending near home; *walk* him in, and treat him as before. During the last week in October he should have a couple of steady four-mile canters, and on the other days walking and trotting exercise about three hours. During October his hay should gradually be reduced to about 8lb. a-day, and his corn increased to 14lb. a-day; if necessary, he may be run over with the lamp a few days before the 1st of November, and if of a gross disposition, he may be given one ball a-week of the following alterative medicine during October: Cinnabar of antimony, 3oz.; balsam of sulphur, 2oz.; camphor, 1oz.; nitre, 4oz.; to be made into ten balls. *Every* Saturday night a bran mash should be given, and no beans *till* the hunting begins on the first of November—by which day, if the above system has been carried out, the horse will be fit to go with any hounds in England.

Now to the treatment of the hunter during the hunting season. Let him have, if possible, a loose box, with plenty of ventilation, and put on plenty of clothing, with an additional rug during the night. Great care should be taken that the corn, hay, and beans are of the last year's growth till up to the end of the year. His daily allowance (of course liable to alteration in different horses) should be about 13lb. of corn, 8lb. of hay, and a handful of *split* beans in each feed, together with a *little* chaff.

Some say that white peas are preferable to beans, given in the proportion of one bushel of peas to four of oats, together with a sprinkling of chaff.

If he is accustomed to have water always kept in his stall, all the better, except on the morning of hunting. Litter should be kept in the stall or box all day, more put down at night, and at morning stables it should be removed, the box well cleaned out, and left clear for two hours.

The best sort of shoe for hunters is bevelled off on the inner

edge, both in the fore and hind shoes, which will at once prevent overreaching and having the fore shoe torn off ; three nails on the outside, and two on the inside. Care should be taken that the crust only, and not the sole of the foot, presses on the shoe. If the sole of the foot is rather concave, it should be stopped with a mixture of cowdung and clay every other night ; but if flat about three times a fortnight is sufficient. The hoof should be daily moistened with oil, which will keep it from becoming brittle, if it has a tendency that way.

The hunter should not be singed further down the legs than just above the knee and hock, the long hairs below (if any) may be rubbed out by hand, with the help of powdered resin. The hair affords the shins great protection from blows and scratches.

The evening before hunting the horse should be given *no* hay, and after his last feed (which should be a good large one) the muzzle should be put on, to prevent him eating his bed. The first thing next morning (five a.m.) he should have his usual feed—no hay—and about half his usual allowance of water.

The best pace to the meet is a gentle jog-trot (the pace which hounds go to covert), and the same pace home again, whether the day has been severe or not.

If the horse has been very much exhausted in the run, some warm beer, wine, or spirits given him *immediately* will generally recover him ; but if given some time after, when reaction has taken place, it would do him *much harm*. A *gulp* of water every now and then on his road home refreshes him much ; with a long journey before you, and half an hour to wait, a little gruel is a good thing.

“On reaching the stable put him in a spare stall, take the bridle off, let his head be free, loose the girths, and throw the outer one down with the stirrups, leathers, and irons ; put some dry straw on the saddleplace, replace the saddle over it, turn the horse round, and then, with warm water and sponge, wash the horse’s mouth and face, and, with soft wisp and dry rubber, make his head clean and comfortable, put him to the manger and give a small portion of hay ; then let the rough dirt and sweat be got quickly off the body, leaving the saddle on, which done, throw a rug loosely over the horse, and wash his legs in a pail of warm water over knees and hocks ; then sponge the sheath and thin skin between his thighs, and let the water be got out of the hair by the use of a chamois leather, and when nearly dry put flannel bandages *loosely* round the legs. At this stage, which will have taken the groom an hour, the horse may drink about three quarts of warm water-gruel.

“In the mash after hunting some add a quart of malt (bruised) to the usual quantity of bran and oats, or put about three double-handfuls of fresh bran into half a pailful of tepid water, stir it with the hand, and let the horse drink off a portion; then give a double-handful of oats with a sprinkling of dry bran and a little hay, and bed the horse up, and leave him for an hour or more; then return, take off the bandages, dress the horse thoroughly well, and rub his legs. Give more tepid water as before, an average feed of corn and hay, and leave him for the night.

“The above is not only good practice for hunters, but for tired, hard ridden and driven horses of all classes.

“Next morning give him a *good grooming*—lead him out for about ten minutes to take off any stiffness, and if he has a loose box he won’t want any further exercise the day after hunting. On the other non-hunting days, two hours’ walking exercise is enough, but the day before hunting, one hour’s walking exercise, and a steady three-mile canter, is a good thing.

“If a *good-constituted* horse, and not overweighted, he should (bar accident) do his three days a fortnight regularly. No physic, unless absolutely necessary, should be given during the hunting season; and if a frost sets in, three hours a day *walking* exercise till the ground gets soft, then a steady canter or two, will prevent him losing much of his condition till the arrival of open weather.

“The hunting groom should never neglect the custom of carefully examining the legs and feet of the horses when they have returned home and been dressed, for the purpose of detecting any thorns, stubbs, or overreaches by which they may have suffered; the parts of the limbs most likely to sustain injury by thorns, and their retention in the skin, are the knee, the front of the pastern or fetlock joint of the fore-limb, and likewise the coronet, where strong thorns and stubbs of wood are sometimes found imbedded in a downward direction, under the upper margin of the hoof. When one of these foreign bodies is discovered, means should be used to get hold of it with a pair of forceps, and endeavours should be made to draw it out whole, failing which, a linseed poultice should be applied around the part, which, in the course of two or three days, generally leads to the expulsion of the thorn along with the purulent secretion set up. Warm fomentations, with flannel bandages dipped in the same, then wrung out, and loosely applied to the horse’s legs, form the best remedy, and lead soonest to the perfect healing of these small, though not unfrequently troublesome, wounds.”

MASHES FOR HORSES.

Take a feed of oats, a double handful of linseed for each horse, and boil for three hours; then turn into a large tub or earthenware pan, and add as much bran, with just enough warm water to moisten the whole through; put a cloth over it, and let it stand an hour. then mix it well, and feed as soon as it is cool enough. This mash is very useful when horses in hard condition "dry up" and grow thin in spite of continual feeds of corn.

PREPARING A HORSE FOR GRASS.

Gradually cool the stable, or change it for a loose box, remove all clothing, let the scurf and dust accumulate on the coat, give a gentle dose of physic, and take away the corn by degrees. In three weeks the horse will be fit to turn out.

SHAVING HORSES.

To shave horses, you should not be sooner or later than the last week of October or the first week of November. The great art of shaving is to get the coat completely wet to the bottom with a good lather of white soap. You make the horse sweat a little, and then commence. You cannot shave the head; you must clip it as well as you can, and clip the legs without a comb; clip up, not round. When done oil them all over and wipe them with a soft towel, and if they are in good condition there is no danger of their catching cold. Exercise them with the clothes on, and strap them well with a nice leather, and in eight or ten days you may hunt them. When they are shaved, their coat never gets bristly.

SQUARING HORSES' TAILS.

There are two ways of squaring the tail. In either case it should be carefully combed out. Then to proceed to cut it, either take up all the hairs carefully in the hand without disturbing the arrangement, and, squeezing them tightly, cut off all together with a sharp knife; or, secondly, take a pair of sharp scissors, and, holding the tail to about its natural fall by the aid of the groom's hand under the dock, pass the point of one blade straight back through the middle of the tail, and cut outwards to either side in as few snips as possible. Then reverse the scissors and cut the other half to the same level.

STABLES.

Elevated and dry ground, which admits of perfect drainage with most facility, is to be preferred; and the frontage of stables, as far

as possible, should be towards the morning or midday sun. Drainage and air are as necessary for horses in all stable arrangement, as is anything pertaining to feeding and watering—all, in fact, are essentials. In addition to the opening of windows, which may or may not of themselves be sufficient, a space should be cut out of the panel of each stable door of about a foot in length, and about the same distance from the ground, to be in a horizontal direction, and of about 6in. to 8in. in depth, measuring from above to the line indicated. This opening may be closed by a frame of wrought iron, into which some small round rods may be rivetted at about an inch apart. The drainage of stables is best effected from the surface, which, in the stalls and boxes, should be of just sufficient declivity towards a shallow gutter behind the horses for the purpose. The material most adapted for paving stables is brick, or the old Dutch tile made for the purpose. Granite and various descriptions of stone, such as is most conveniently found in various districts also answer the purpose.

The floor of the stalls should fall from the sides to the centre from which the drainage is carried. The whole range of stalls should face the south or south-west, the doors and windows opening to that aspect. Loose boxes are better than stalls, and should be built thus: Each loose box should not be less than 14ft. high, 11ft. deep, and 12ft. wide. It is as well not to place any loft over the stables. The ventilation should be perfect, the temperature being 51° in winter and 60° in summer.

STAINING A HORSE'S HOOF DARK.

Paint it over with a strong solution of nitrate of silver.

STAINS ON GREY HORSES.

No. 1.—Rub in some of the blue used by washerwomen in the same sort of bag they use. Allow it to dry, and then wash it off with soap and water.

No. 2.—First well wash the dirt off, and then apply some powdered charcoal with a water-brush, and, when dry, rub it off with a horse-brush.

No. 3.—Iodide of potash will remove the stains,

TICKS IN STABLES.

No. 1.—Dissolve an ounce of corrosive sublimate in spirits of wine, and dilute with two quarts of water—then brush all the timbers, &c., over with this, saturating every chink and crack.

No. 2.—Rub down in a mortar 1dr. of corrosive sublimate with $\frac{1}{2}$ oz. of sal ammoniac, then add 2 quarts of water, and brush the woodwork over with the solution two or three times till thoroughly saturated.

BEST BOOKS FOR THE HORSE KEEPER.

DISEASES.

- Veterinary Medicines. By F. Dun. Edinburgh: Sutherland and Knox; or, London: Simpkin and Marshall.
- A Manual of Pharmacy. By W. T. Morton. London: Longman, Green, Longman, and Co.
- The Illustrated Horse Doctor. By E. Mayhew. London: W. H. Allen and Co., Leadenhall-street.
- Occasional Papers on Veterinary Subjects. By William Dick. Edinburgh and London: William Blackwood and Sons. 1869.
- A Compendium of the Veterinary Art. By James White, late Veterinary Surgeon of the 1st or Royal Dragoons, Nineteenth Edition, entirely reconstructed, with considerable additions and alterations by W. C. Spooner, M.R.C.V., &c. London: Longman and Co.; Simpkin, Marshall, and Co.; Whittaker and Co.; Houlston and Wright; and W. Tegg.
- Veterinarian's Vade Mecum. Edinburgh: Sutherland and Knox; London: Simpkin and Co.
- Blaine's Veterinary Art. By Steele.
- Percivall's Anatomy of the Horse.
- Percivall's Hippopathology.
- Mayhew on the Horse's Mouth. Published by Messrs. Fores, Piccadilly.

FOOD FOR HORSES.

- The Horse, and how to Feed him. By Armitage.

MISCELLANEOUS.

- Horses and Stables. By Col. Fitz-Wygram.
- Darvill on Training the Racehorse. Published by Ridgway, Piccadilly.
- Stewart's Stable Economy. Published by Blackwood and Sons.
- The Horse. Published by the Society for the Diffusion of Knowledge.

The Horse. By William Youatt. With a Treatise on Draught. A new Edition, revised and enlarged. By E. N. Gabriel, M.R.C.S. and M.R.C.V.S., Secretary to the Royal College of Veterinary Surgeons. London : Longman and Co.

The Horse and its Rider. Published by Murray, of Albemarle-street, Horse Shoeing. By Mr. W. Miles. Published by Longman and Co. Breeding of Horses. By Cecil.

The Horse in the Stable and the Field. London : Routledge and Co.

STABLE MANAGEMENT.

Proper Condition of Horses. Published by T. C. Newby.

The Pocket and the Stud ; or Practical Hints on the Management of the Stable. Published by Longman and Co.

Knightley's Stable Architecture. Published by Baily Brothers.

Young Groom's Guide. London : Sampson, Lowe, and Co.

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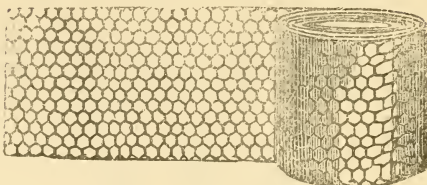
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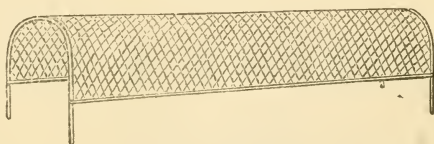
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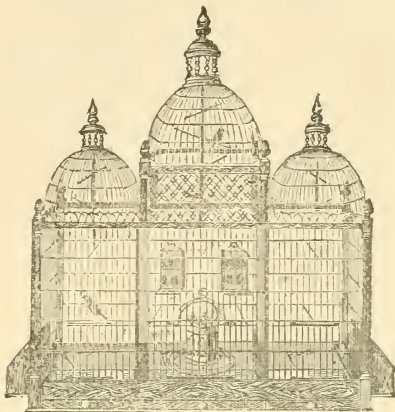
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